UK MET OFFICE
GLOBAL DATA MONITORING REPORT

March 2006

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CONTENTS

1. Introduction

2. Global Data Monitoring Statistics

3. Composite Observing Systems for the North Atlantic (COSNA)

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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Exeter. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Exeter in time for inclusion into the appropriate analysis (the current cut-off time is approximately 7.2 hours after each analysis time). The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background) field, although to provide background values valid at the observation time for non-main hour data, time-interpolation of the T+3, T+6 and T+9 forecasts is used; and for sea surface temperature the background field is the analysis from the previous day. Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1and 2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or sea surface temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIFTER observations received per day throughout the month at Exeter and assimilated into model runs. All data are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At the UK Met. Office, we monitor SYNOP pressure after it has been interpolated to our Global NWP Model's surface height. For most synoptic stations (about 75%), the surface pressure (at the model surface) is calculated from the reported station-level pressure, or, if this is not available, the height of a standard pressure-level (e.g. 850 hPa or 700 hPa). If neither of these are available, or if the reported station-level pressure is deemed unreliable, the reported mean sea-level pressure is used (about 25% of SYNOPs).

Aircraft observations

Tables 4A (300-150 hPa) and 4B (1000-301 hPa) contain lists of statistics calculated from data received from all airline carriers.

Figures 3A (300-150 hPa) and 3B (1000-301 hPa) show 10 degree lat/long box average numbers of aircraft reports in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS) received per day throughout the month at Exeter and assimilated into model runs. Observations with a vector wind difference (compared with the model background field) of >60 m s^{-1} have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Figures 4A-7A (300-150 hPa) and 4B-7B (1000-301 hPa) show wind statistics for AIREP/ASDAR in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS). Observations with a vector wind difference > 60 m s^{-1} have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed (m s^{-1})
7	RMS observation-background vector (m s^{-1})

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Exeter and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-39 show sounding statistics from the polar orbitting satellite NOAA-15. Figure 25 shows the mean daily number of ATOVS soundings, and figures 26-39 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
26	Mean	Surface (HIRS8)
27	SD	Surface (HIRS8)
28	Mean	700 (HIRS15)
29	SD	700 (HIRS15)
30	Mean	500-700 (HIRS11)
31	SD	500-700 (HIRS11)
32	Mean	400 (HIRS4)
33	SD	400 (HIRS4)
34	Mean	700 (AMSUA5)
35	SD	700 (AMSUA5)
36	Mean	300 (AMSUA7)
37	SD	300 (AMSUA7)
38	Mean	100 (AMSUA9)
39	RMS	100 (AMSUA9)

Figures 40-54 show sounding statistics from the polar orbitting satellite NOAA-16. Figure 40 shows the mean daily number of ATOVS soundings, and figures 41-54 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
41	Mean	Surface (HIRS8)
42	SD	Surface (HIRS8)
43	Mean	700 (HIRS15)
44	SD	700 (HIRS15)
45	Mean	500-700 (HIRS11)
46	SD	500-700 (HIRS11)
47	Mean	400 (HIRS4)
48	SD	400 (HIRS4)
49	Mean	700 (AMSUA5)
50	SD	700 (AMSUA5)
51	Mean	300 (AMSUA7)
52	SD	300 (AMSUA7)
53	Mean	100 (AMSUA9)
54	RMS	100 (AMSUA9)

Figures 55-69 show sounding statistics from the polar orbitting satellite NOAA-18. Figure 55 shows the mean daily number of ATOVS soundings, and figures 56-69 show mean and standard deviation observation-background differences for brightness temperature for selected channels.

Figure		Weighting function peak (hPa)
56	Mean	Surface (HIRS8)
57	SD	Surface (HIRS8)
58	Mean	700 (HIRS15)
59	SD	700 (HIRS15)
60	Mean	500-700 (HIRS11)
61	SD	500-700 (HIRS11)
62	Mean	400 (HIRS4)
63	SD	400 (HIRS4)
64	Mean	700 (AMSUA5)
65	SD	700 (AMSUA5)
66	Mean	300 (AMSUA7)
67	SD	300 (AMSUA7)
68	Mean	100 (AMSUA9)
69	RMS	100 (AMSUA9)

N.B. All satellite sounding data is bias-corrected (and thinned) before being assimilated in the UKMO NWP model.

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Exeter during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Exeter in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Exeter from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics **(Geopotential Height and Windspeed at 100 and 500 hPa)** for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.
4. February 96 Monitoring statistics for GOES-7 have been replaced by statistics for GOES-8 and GOES-9.
5. April 96. 500 km and 120 km SATEMs replaced by 120 km resolution temperature profiles produced locally from the radiances disseminated by NESDIS.
6. February 97 Monitoring statistics for Meteosat 5 have been replaced by statistics for Meteosat 6.
7. Sept 97 Monitoring statistics for NOAA-12 removed. Figures 25-27 now show data for NOAA-11
8. January 1998. Increase in resolution of UKMO global forecast model.
9. April 1998. GOES winds ceased on 2nd March 1998, and were replaced with GOES high resolution winds from 15th.
10. June 1998. Monitoring statistics for Meteosat-6 were replaced by monitoring statistics for Meteosat-7, from 3rd June.
11. June 1998. Corrections in our processing of radiosonde data resulted in a decrease in the number of 500hPa geopotential heights in Figure 8 of about 230 per 24 hours (compared with previous reports), and a small increase in the number of 300hPa winds in Figure 9.
12. July 1998. Meteosat-5 began transmitting winds from 2nd July, at 63 degrees East (over the Indian ocean), and this data is included in the statistics.
13. July 1998. GOES-9 (at 135W) was replaced mid-month by GOES-10 (initially at 105W, moving towards 135W).
14. February 1999. Problems with NOAA-11, and TOVS data ceased to be assimilated from 26 February.
15. March 1999. UKMO introduced 3-D VAR assimilation system on 29 March, and also began assimilating ATOVS data from NOAA-15.
16. May 1999. Included statistics for ATOVS sounding data from NOAA-15.
17. September 1999. Included statistics for high resolution visible winds from Meteosat-5 and Meteosat-7.
18. October 1999. The 3-D VAR assimilation system was upgraded on 19 October, including improvements in the assimilation of ATOVS radiances, use of SSM/I surface wind speed, an improvement in the calculation of surface pressure for SYNOPs, and thinning and revision of observation errors of aircraft data.
19. November 1999. High resolution visible winds from Meteosat-5 and Meteosat-7 removed until used operationally.
20. April 2000. Aireps in Table 4 and Figures 3-7 split into ranges 300-150 hPa (A) and 1000-301 hPa (B).
21. September 2000. Corrected an error affecting the mean positions of a minority of buoys in Table 2.
22. November 2000. An error in the production of Table 6 was corrected. Previously, some sondes with suspect vector winds were being missed.
23. April 2001. Included statistics for ATOVS sounding data from NOAA-16.
24. May 2001. Included statistics for sea surface temperatures from marine surface observations.
25. December 2002. Included statistics for ATOVS sounding data from NOAA-17.
26. December 2002. Meteosat-7 and Meteosat-5 SATOB winds replaced by higher resolution BUFR-coded winds.
27. November 2003.Included temperature and relative humidity statistics for ships, fixed buoys and platforms in Table 1.
28. November 2003. NOAA 17 statistics no longer available due to malfunction of the AMSU-A instrument.
29. December 2005. Included statistics for ATOVS sounding data from NOAA-18.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for ships, fixed buoys and platforms.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours

Elements monitored
:Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (Degrees).
:Air temperature (Degrees C).
:Relative Humidity (%).
:Sea surface temperature (Degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:PGE :Percentage of observations with gross errors.

:%REJ :Percentage of observations flagged excluding those with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the wind observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT
:15 hPa (pressure)
:25 m s^{-1} (vector wind)
:15 degrees (air temperature)
:10 degrees (sea surface temperature)

SELECTION CRITERIA :NOBS ≥ 20 , and one or more of the following:

1.|bias|	≥ 4 hPa	(pressure),
	≥ 5 m s^{-1}	(wind speed),
	≥ 30 degrees	(direction).
	≥ 3 degrees	(sea surface temperature).
	≥ 4 degrees	(air temperature)
	≥ 15%	(relative humidity)
2.SD	≥ 6 hPa	(pressure),
	≥ 80 degrees	(direction).
	≥ 5 degrees	(sea surface temperature).
	≥ 6 degrees	(air temperature)
	≥ 25%	(relative humidity)
3.PGE	≥ 25	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
C6UC3	P	33	0	100	1.3	12.3	12.3
DGRF	P	23	0	30	0.6	4.0	4.1
FKJB	P	45	4	76	6.6	4.3	7.9
KF003	P	25	0	4	1.3	-7.7	7.8
KS049	P	237	0	0	0.8	-4.5	4.5
LAOX5	P	39	0	0	1.6	4.1	4.4
OWTW2	P	41	0	0	0.9	4.0	4.1
PJFF	P	28	0	25	0.6	5.7	5.7
TEST	P	197	100	100			
UBXD	P	48	4	90	3.4	-5.6	6.5
UBXS	P	36	0	22	2.2	5.3	5.8
UCJL	P	35	0	100	1.0	-4.3	4.4
UGOU	P	58	0	78	2.3	-5.0	5.4
UISD	P	22	0	64	3.6	5.1	6.2
UITP	P	37	3	100	1.5	6.7	6.9
VVCZ	P	40	0	82	1.4	5.7	5.8
V7FW8	P	23	9	100	1.2	10.6	10.7
WDB9986	P	37	0	100	1.4	6.3	6.4
ZCDG8	P	24	0	58	1.5	4.1	4.4
7850	P	32	3	100	1.5	6.8	6.9

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8FZ5	SPEED	112	0	7	4.1	5.1	6.6
A8HR7	SPEED	72	0	11	4.4	5.6	7.1
C6JD7	SPEED	26	15	38	6.1	8.4	10.4
DHAF	SPEED	32	0	28	4.5	5.1	6.8
DHTK	SPEED	26	0	58	3.2	10.2	10.7
LAIP5	SPEED	52	0	100	3.6	-5.5	6.6
SHJC	SPEED	20	5	10	3.0	6.1	6.8
UIAG	SPEED	25	0	24	3.0	7.5	8.1
VEP717	SPEED	232	0	100	3.5	5.4	6.4
V7FW7	SPEED	49	2	22	4.5	5.4	7.0
ZCBU6	SPEED	28	0	25	3.4	5.1	6.1
62147	SPEED	63	0	100	3.3	5.1	6.1

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
CFN3031	DIRN.	37	11	0	37.9	-82.3	90.7
LAJV4	DIRN.	170	25	0	61.8	73.8	96.3
MCDW2	DIRN.	25	4	0	43.5	-31.8	53.9
TOUR	DIRN.	86	0	0	97.4	-10.8	98.0
UCUD	DIRN.	20	0	0	87.2	-18.1	89.1
VRY09	DIRN.	72	0	0	26.4	-40.7	48.6
23173	DIRN.	41	0	0	36.4	-33.8	49.7
46002	DIRN.	109	1	0	88.0	43.3	98.1
46078	DIRN.	523	0	0	12.4	-37.2	39.2
52083	DIRN.	388	0	0	14.3	37.4	40.0

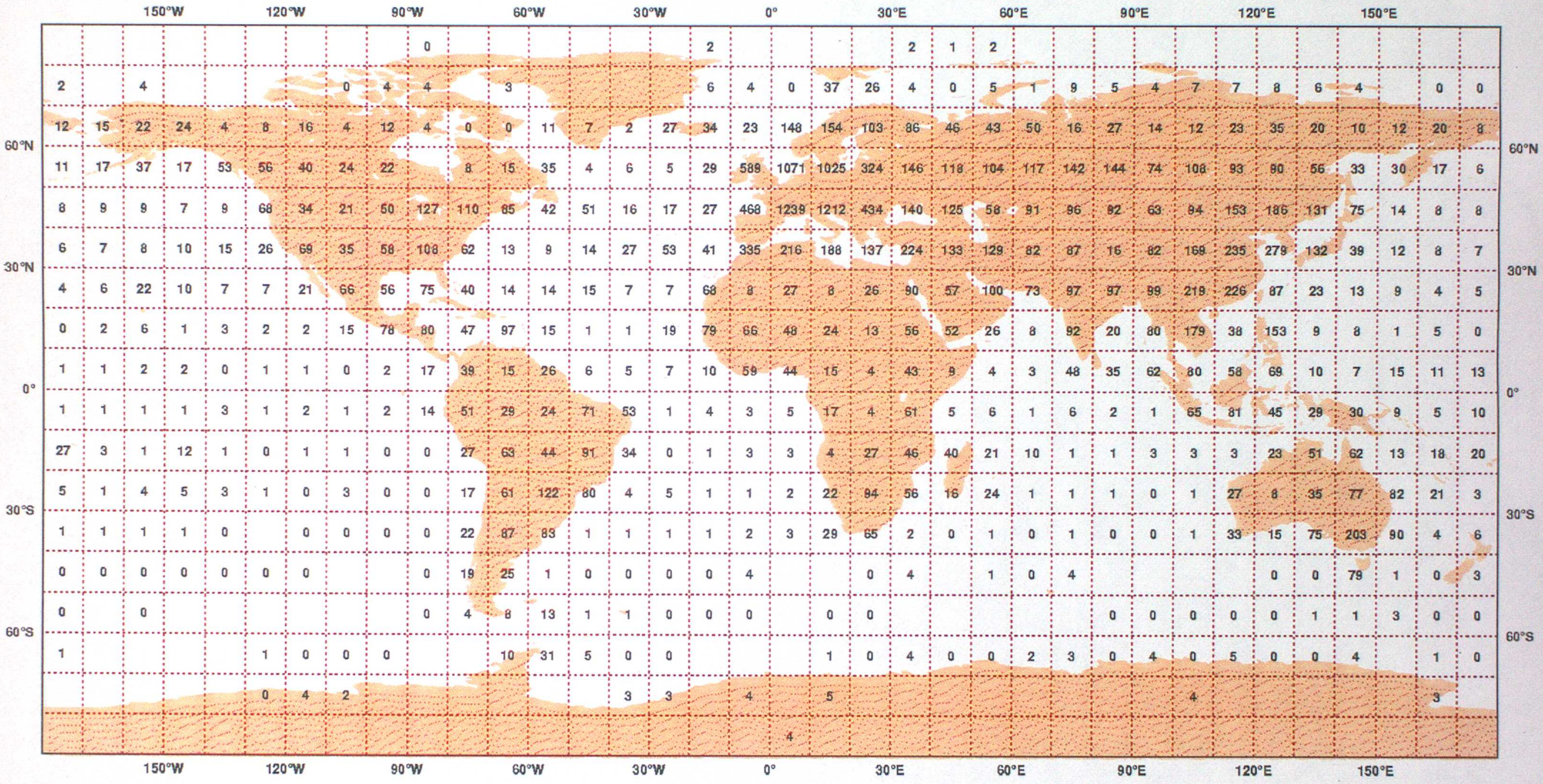
IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
KF003	T	25	0	100	2.7	4.3	5.1
SP34	T	118	0	100	3.0	-4.6	5.5
S6PI	T	21	0	100	4.8	-8.4	9.7
TEST	T	197	100	100			
UCJJ	T	81	4	100	3.3	-4.9	5.9
UEMM	T	31	0	100	4.0	-6.4	7.5
UGPK	T	26	8	100	1.8	-5.4	5.7
WCY2306	T	196	3	100	3.5	5.3	6.4
WDC6907	T	21	0	100	3.0	-4.0	5.0
WXJ63	T	194	4	100	3.9	7.9	8.9
46081	T	720	2	100	3.0	6.5	7.2

46131	T	714	0	100	2.2	4.7	5.2
46181	T	720	0	100	1.7	5.4	5.7

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
DHAF	RH	32	0	100	10.8	17.0	20.1
DLCX	RH	21	0	100	13.8	-15.0	20.4
ELZY4	RH	57	0	100	14.2	-15.0	20.6
FNAT	RH	80	0	100	5.5	20.8	21.5
MSHE2	RH	101	0	100	12.3	18.3	22.1
OZZE2	RH	136	0	100	15.4	-15.1	21.6
PCIM	RH	36	0	100	8.1	-18.8	20.5
PGUP	RH	32	0	100	7.8	15.8	17.6
VCDT	RH	112	0	100	20.0	-68.7	71.5
V7CY4	RH	59	0	100	10.4	16.3	19.3
V7EI9	RH	55	0	100	10.9	18.3	21.3
ZQHM2	RH	24	0	100	11.9	17.2	20.9
62123	RH	22	0	100	12.2	15.0	19.3
62402	RH	23	0	100	16.0	-22.7	27.7

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8DZ4	SST	21	0	100	2.1	3.7	4.2
A8GA2	SST	32	0	59	3.6	-3.4	5.0
A8HF6	SST	69	4	65	3.3	4.4	5.5
CGDR	SST	107	0	115	0.6	3.2	3.3
C6IO9	SST	38	0	63	3.6	-3.1	4.7
C6UG4	SST	35	3	37	1.3	-3.8	4.0
DNDD	SST	50	0	100	1.1	3.7	3.8
KHRC	SST	44	0	100	0.8	-5.4	5.4
LAIP5	SST	54	0	83	1.8	-5.6	5.9
MEPP3	SST	26	0	38	1.6	-3.1	3.5
OULA2	SST	35	0	74	1.2	4.9	5.0
S6PI	SST	22	64	95	5.9	-0.3	5.9
TEST	SST	199	100	100			
UIAC	SST	37	32	32	0.6	1.9	2.0
UICO	SST	23	4	100	0.8	4.0	4.1
VRBH4	SST	44	7	64	1.9	-4.8	5.1
V2007	SST	57	2	61	1.8	4.2	4.6
V7IP9	SST	23	4	48	2.8	3.3	4.3
WAAH	SST	96	0	100	1.8	3.3	3.8
WCY2306	SST	94	0	113	0.6	-4.0	4.0
WCZ5528	SST	20	0	60	3.7	-4.2	5.6
WDB9949	SST	27	0	104	1.1	-3.1	3.3
WMLH	SST	39	0	100	0.9	3.3	3.4
WSRH	SST	37	0	100	1.3	-4.0	4.2
3FDN9	SST	53	0	17	1.6	3.0	3.4
3FRR5	SST	63	0	95	1.9	-6.5	6.7
41035	SST	773	0	100	0.9	-3.3	3.5

Figure 1. SHIP/SYNOP mean daily count. MARCH 2006
All hours
Global average number of observations in 24 hours = 21174



									0							2					2	1	2												
2		4					0	4	4		3					6	4	0	37	26	4	0	5	1	9	5	4	7	7	8	6	4		0	0
12	15	22	24	4	8	16	4	12	4	0	0	11	7	2	27	34	23	148	154	103	86	46	43	50	16	27	14	12	23	35	20	10	12	20	8
11	17	37	17	53	56	40	24	22		8	15	35	4	6	5	29	589	1071	1025	324	146	118	104	117	142	144	74	108	93	90	56	33	30	17	6
8	9	9	7	9	68	34	21	50	127	110	85	42	51	16	17	27	468	1239	1212	434	140	125	58	91	96	92	63	94	153	186	131	75	14	8	8
6	7	8	10	15	26	69	35	58	108	62	13	9	14	27	53	41	335	216	188	137	224	133	129	82	87	16	82	169	235	279	132	39	12	8	7
4	6	22	10	7	7	21	66	56	75	40	14	14	15	7	7	68	8	27	8	26	90	57	100	73	97	97	99	219	226	87	23	13	9	4	5
0	2	6	1	3	2	2	15	78	80	47	97	15	1	1	19	79	66	48	24	13	56	52	26	8	92	20	80	179	38	153	9	8	1	5	0
1	1	2	2	0	1	1	0	2	17	39	15	26	6	5	7	10	59	44	15	4	43	9	4	3	48	35	62	80	58	69	10	7	15	11	13
1	1	1	1	3	1	2	1	2	14	51	29	24	71	53	1	4	3	5	17	4	61	5	6	1	6	2	1	65	81	45	29	30	9	5	10
27	3	1	12	1	0	1	1	0	0	27	63	44	91	34	0	1	3	3	4	27	46	40	21	10	1	1	3	3	3	23	51	62	13	18	20
5	1	4	5	3	1	0	3	0	0	17	61	122	80	4	5	1	1	2	22	84	56	16	24	1	1	1	0	1	27	8	35	77	82	21	3
1	1	1	1	0		0	0	0	0	22	87	83	1	1	1	1	2	3	29	65	2	0	1	0	1	0	0	1	33	15	75	203	90	4	6
0	0	0	0	0	0	0			0	19	25	1	0	0	0	0	4			0	4		1	0	4					0	0	79	1	0	3
0		0							0	4	8	13	1	1	0	0	0		0	0						0	0	0	0	0	1	1	3	0	0
1					1	0	0	0			10	31	5	0	0				1	0	4	0	0	2	3	0	4	0	5	0	0	4		1	0
					0	4	2							3	3		4		5									4						3	
																		4																	

TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period		:One calendar month.	
Data monitored		:Reports from each unique identifier for drifting buoys.	
Standard of comparison		:Background field from UKMO global model.	
Position		:Average latitude and longitude for period.	
Observation times		: All hours	
Elements monitored		:Mean sea level pressure (hPa). :Wind speed (m s^{-1}). :Wind direction (degrees). :Sea surface temperature (degrees).	
Parameters monitored	:NOBS	:Number of observations received excluding duplicates.	
	:PGE	:Percentage of observations with gross errors.	
	:%REJ	: Percentage of observations flagged excluding those with gross errors	
	:SD	:SD of difference of observations from background values excluding those with gross errors.	
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. a positive bias indicates the wind observation is veered to the background.**	
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.	
GROSS ERROR LIMIT	:15 hPa	(pressure)	
	:25 m s^{-1}	(vector wind)	
	:10 degrees	(sea surface temperature)	
SELECTION CRITERIA :	NOBS	≥ 20 , and one or more of the following:	
	1.|bias|	≥ 4 hPa	(pressure),
		≥ 5 m s^{-1}	(wind speed),
		≥ 30 degrees	(direction).
		≥ 3 degrees	(sea surface temperature).
	2.SD	≥ 6 hPa	(pressure),
		≥ 80 degrees	(direction).
		≥ 5 degrees	(sea surface temperature).
	3.PGE	≥ 25.	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
25574	86.1	26.7	P	29	31	100	6.4	1.0	6.5
41537	14.8	-62.3	P	235	55	100	2.6	11.6	11.9
41649	17.7	-47.6	P	21	76	95	6.1	-4.2	7.4
41650	17.2	-42.7	P	24	88	92	4.3	4.9	6.5
43512	12.2	-82.9	P	135	100	100			
46560	49.3	-138.2	P	164	27	84	4.4	-7.0	8.2
71543	-53.5	10.6	P	227	0	100	1.5	-4.1	4.3

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
21550	26.7	143.1	SST	364	49	49	0.6	-1.3	1.4
22591	-3.0	107.1	SST	87	34	56	3.5	1.3	3.7
22599	-5.0	116.1	SST	409	34	34	0.3	-0.3	0.4
22646	33.5	163.2	SST	262	0	61	1.9	-3.3	3.8
22651	21.7	112.2	SST	112	0	100	0.3	-4.0	4.0
22925	36.2	165.0	SST	725	1	57	2.6	-3.5	4.4
31551	-44.9	-40.1	SST	24	67	96	5.4	1.4	5.5
41553	29.9	-38.3	SST	747	0	100	1.1	3.0	3.2
41623	28.9	-79.4	SST	129	0	88	0.4	3.4	3.4
41649	17.7	-47.6	SST	61	48	70	5.1	2.3	5.5
41650	17.1	-42.8	SST	78	41	68	5.1	2.7	5.8
41685	34.8	-58.5	SST	892	0	100	0.2	-3.1	3.1
41919	26.9	-96.8	SST	540	25	100	0.8	9.2	9.2
44501	49.7	-49.9	SST	351	97	100	0.7	8.5	8.6
44780	48.6	-41.7	SST	230	0	72	1.1	3.6	3.8
51517	8.5	-156.3	SST	331	41	41	0.3	0.1	0.4
51518	-15.5	159.8	SST	21	48	71	2.9	-3.3	4.4
71644	-50.2	27.6	SST	572	100	100			

Figure 2. DRIFTER mean daily count. MARCH 2006
All hours
Global average number of observations in 24 hours = 25267

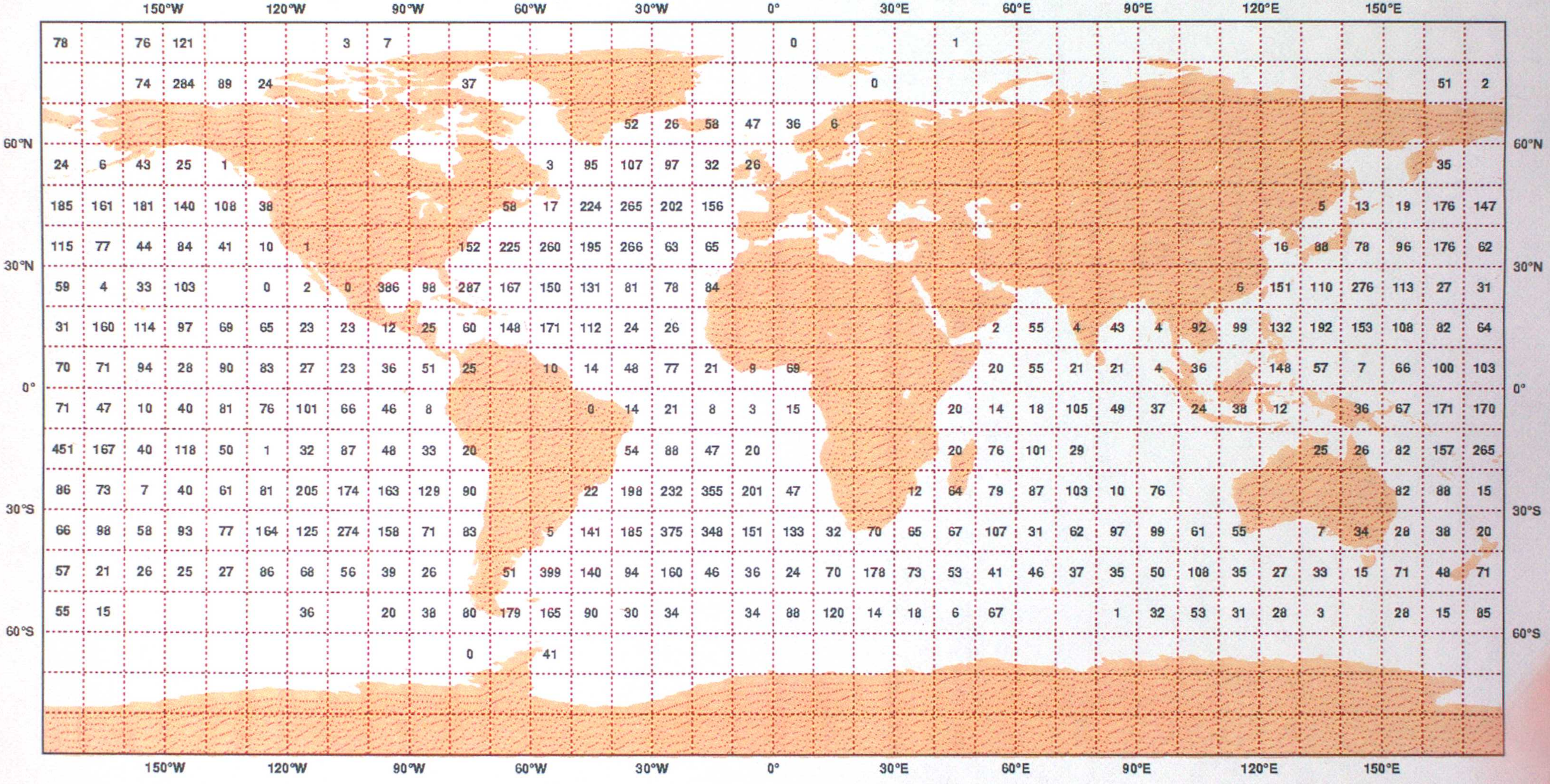

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
78 76 121 3 7 0 1
74 284 89 24 37 0 51 2
52 26 58 47 36 6
24 6 43 25 1 3 95 107 97 32 26 35
185 161 181 140 108 38 58 17 224 265 202 156 5 13 19 176 147
115 77 44 84 41 10 1 152 225 260 195 266 63 65 16 88 78 96 176 62
59 4 33 103 0 2 0 386 98 287 167 150 131 81 78 84 6 151 110 276 113 27 31
31 160 114 97 69 65 23 23 12 25 60 148 171 112 24 26 2 55 4 43 4 92 99 132 192 153 108 82 64
70 71 94 28 90 83 27 23 36 51 25 10 14 48 77 21 9 69 20 55 21 21 4 36 148 57 7 66 100 103
71 47 10 40 81 76 101 66 46 8 0 14 21 8 3 15 20 14 18 105 49 37 24 38 12 36 67 171 170
451 167 40 118 50 1 32 87 48 33 20 54 88 47 20 20 76 101 29 25 26 82 157 265
86 73 7 40 61 81 205 174 163 129 90 22 198 232 355 201 47 12 64 79 87 103 10 76 82 88 15
66 98 58 93 77 164 125 274 158 71 83 5 141 185 375 348 151 133 32 70 65 67 107 31 62 97 99 61 55 7 34 28 38 20
57 21 26 25 27 86 68 56 39 26 51 399 140 94 160 46 36 24 70 178 73 53 41 46 37 35 50 108 35 27 33 15 71 48 71
55 15 36 20 38 80 179 165 90 30 34 34 88 120 14 18 6 67 1 32 53 31 28 3 28 15 85
0 41
150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E

TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Surface pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged excluding those with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT :15 hPa (pressure)

SELECTION CRITERIA :NOBS ≥ 20 ,and one or more of the following:

1.|bias| ≥ 4 hPa
2. SD ≥ 6 hPa
3.PGE ≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

SUSPECT SYNOPS (PRESSURE) BY WMO REGION MAR 200

WMO REGION 1:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60423	36.3N	8.0E	680	S8	91	90	99	0	0.0	9.7	9.7
61816	10.9N	14.3W	69	MS	32	11	34	3	2.3	-1.0	2.5
62056	32.8N	21.9E	625	S8	69	1	1	1	1.2	-5.3	5.4
63330	13.5N	39.5E	2070	MS	41	40	98	0	0.0	-11.5	11.5
63333	11.1N	39.7E	1903	MS	65	1	2	0	0.8	5.2	5.3
63334	10.3N	37.7E	2515	MS	65	0	0	2	1.3	10.2	10.3
63450	9.0N	38.8E	2354	MS	74	2	3	1	0.8	4.4	4.5
63478	5.9N	43.6E	295	MS	38	0	0	24	2.3	5.0	5.5
63671	1.8N	40.1E	244	M	112	0	0	0	1.3	-4.8	5.0
63801	4.9S	29.6E	882	S8	75	1	1	1	2.6	8.3	8.7
63881	8.0S	31.6E	1923	S	55	3	5	0	2.8	12.1	12.4
67250	15.6S	32.8E	882	S8	32	32	100	84			
67295	19.1S	33.5E	731	S8	52	32	62	0	0.6	14.1	14.1
68014	19.6S	18.1E	1411	S8	33	0	0	0	0.7	-6.8	6.8
68030	18.5S	25.6E	1071	S8	42	1	2	0	4.1	7.3	8.4
68102	19.9S	16.4E	1343	S8	122	0	0	0	0.6	6.4	6.4
68262	25.7S	28.2E	1310	S8	122	0	0	19	2.2	5.1	5.6
68300	26.6S	15.1E	16	MS	119	9	8	0	0.8	-13.4	13.4
68312	26.5S	18.1E	1067	S8	33	0	0	0	0.5	4.4	4.4
68396	26.5S	31.3E	641	S8	56	0	0	2	1.4	5.2	5.4
68575	30.0S	30.0E	1175	S8	122	122	100	0			

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
25248	67.3N	168.0E	353	MS	75	0	0	0	2.2	4.3	4.8
30554	54.5N	113.6E	995	MS	121	0	0	1	1.3	12.2	12.3
31534	50.4N	131.0E	230	MS	119	1	1	0	0.8	-5.2	5.3
35416	49.1N	54.7E	128	MS	122	0	0	1	1.5	4.0	4.3
36982	41.9N	78.2E	3635	S7	96	1	1	0	0.6	5.2	5.2
38846	38.4N	70.0E	1437	S8	63	0	0	0	2.9	-4.4	5.3
38944	37.5N	69.4E	448	M	66	1	2	0	2.5	-5.9	6.4
40435	27.0N	44.1E	991	MS	58	1	2	2	1.3	7.4	7.5
40700	39.6N	47.9E	45	MS	118	0	0	0	1.4	-5.9	6.1
40713	37.4N	46.3E	1475	MS	118	1	1	0	0.6	13.3	13.3
40741	36.5N	61.2E	235	MS	122	0	0	1	1.1	-5.0	5.1
40743	36.2N	57.7E	978	MS	121	0	0	0	0.6	6.0	6.0
40757	35.6N	53.4E	1171	MS	122	0	0	0	0.8	4.8	4.9
40780	33.6N	46.4E	1362	MS	121	1	1	0	0.6	4.7	4.7
40854	29.1N	58.4E	1067	MS	121	2	2	1	0.9	10.5	10.5
41252	23.4N	56.5E	244	MS	97	0	0	0	0.6	-9.2	9.2
41254	23.1N	57.6E	1755	S8	121	121	100	0			
41396	16.0N	48.9E	700	MS	68	0	0	0	0.6	6.9	6.9
41466	13.7N	44.1E	1402	S8	88	2	2	1	0.6	-7.8	7.8
41536	34.4N	73.4E	980	8	57	0	0	74	3.0	5.0	5.8
44416	28.6N	81.6E	720	MS	80	0	0	0	0.9	4.7	4.8
47022	40.8N	128.2E	1224	S	104	0	0	0	0.8	5.7	5.8
47155	35.2N	128.6E	5	MS	122	0	0	0	0.8	-4.2	4.3
47678	33.1N	139.8E	79	MS	122	0	0	0	0.7	-9.4	9.4
48920	8.7N	111.9E	3	MS	112	0	0	0	1.0	5.5	5.6
48921	21.6N	101.9E	923	S	36	36	100	0			
48924	21.1N	101.5E	644	S	44	0	0	0	1.0	11.9	11.9
48925	20.7N	102.0E	550	S	45	1	2	0	0.8	-9.8	9.8
48938	19.2N	101.7E	326	MS	48	19	40	0	3.3	13.1	13.5
48952	15.7N	106.4E	168	MS	38	0	0	3	1.8	-4.4	4.8
50978	45.3N	130.9E	234	MS	122	0	0	0	0.7	-6.3	6.3
51243	45.6N	84.9E	428	MS	122	0	0	0	1.3	-4.5	4.7

51573	42.9N	89.2E	37	MS	122	0	0	0	1.8	-5.2	5.5
52112	43.8N	95.1E	469	M	120	0	0	0	3.5	-4.7	5.9
52866	36.6N	101.8E	2262	S	122	0	0	0	1.1	-4.6	4.7
53646	38.3N	109.8E	1058	MS	122	0	0	0	0.6	-12.6	12.6
54292	42.9N	129.5E	178	MS	122	0	0	0	0.8	-10.2	10.2
56462	29.0N	101.5E	2994	S	122	0	0	0	1.3	8.7	8.8
56768	25.0N	101.5E	1773	S	122	0	0	0	0.9	-5.1	5.2
57816	26.6N	106.7E	1074	MS	122	87	71	0	0.6	-14.3	14.3
59023	24.7N	108.1E	214	MS	122	0	0	0	0.8	-5.2	5.3
59663	21.8N	112.0E	22	MS	122	0	0	0	0.6	-8.3	8.3

WMO REGION 3:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80426	9.4N	70.6W	582	MS	25	0	0	0	0.8	4.5	4.6
82181	2.0S	54.1W	146	MS	84	0	0	0	1.5	5.3	5.5
82704	7.6S	72.7W	170	MS	87	0	0	0	1.8	-4.0	4.4
83235	12.4S	46.4W	604	MS	83	0	0	0	1.6	5.8	6.0
83332	14.1S	46.4W	826	MS	83	17	20	0	1.1	13.5	13.5
83470	17.9S	50.9W	727	MS	83	0	0	0	1.2	-5.7	5.8
83531	18.6S	46.5W	940	MS	88	0	0	0	1.1	-6.1	6.2
83738	22.5S	44.5W	440	MS	89	0	0	91	1.4	-4.6	4.8
83836	25.5S	50.6W	837	MS	91	0	0	0	0.8	-4.5	4.6
83970	31.3S	50.9W	4	MS	79	0	0	0	0.9	-5.6	5.7
84132	0.9S	75.4W	215	MS	30	1	3	0	1.7	4.7	5.0
84140	1.1S	79.5W	73	MS	30	0	0	0	1.0	6.4	6.5
84143	1.0S	78.6W	2628	S7	30	0	0	3	1.3	-4.6	4.8
84160	1.3S	78.6W	2940	S7	30	0	0	0	0.6	13.3	13.3
84377	3.8S	73.3W	125	MS	106	0	0	0	2.1	4.3	4.8
84425	5.9S	76.1W	179	MS	22	0	0	0	1.2	6.6	6.7
84452	6.8S	79.8W	29	MS	109	1	1	1	1.1	4.0	4.1
84455	6.5S	76.4W	281	MS	83	1	1	0	1.9	6.6	6.9
84472	7.1S	78.5W	2620	S	55	0	0	2	0.8	-6.1	6.2
84474	7.2S	76.7W	350	S	22	0	0	0	1.0	10.2	10.2
84686	13.6S	72.0W	3248	S	105	0	0	0	0.7	-4.1	4.2
84688	13.7S	73.4W	3444	S	45	0	0	0	0.9	-12.2	12.2
85140	14.3S	67.4W	140	MS	59	0	0	0	1.8	10.3	10.5
85264	18.5S	64.1W	1998	S	59	59	100	0			
85312	19.8S	63.9W	992	S	45	0	0	2	0.9	-10.1	10.1
85432	22.5S	68.9W	2320	S8	81	0	0	0	0.5	4.1	4.1

WMO REGION 4:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71060	52.5N	116.1W	230	MS	120	120	100	0			
71181	47.1N	55.3W	29	MS	122	0	0	0	0.6	-5.6	5.6
71581	54.5N	128.6W	215	MS	122	53	43	0	5.4	-8.7	10.2
71979	53.8N	118.4W	1542	S	108	0	0	0	0.6	10.2	10.2
76055	31.0N	114.9W	440	MS	71	71	100	0			
76160	29.1N	110.9W	212	MS	22	0	0	0	0.9	-4.1	4.2
76225	28.6N	106.1W	1435	MS	97	0	0	0	0.9	-4.4	4.5
76543	22.0N	98.8W	104	MS	51	1	2	4	1.2	8.7	8.8
76658	19.2N	103.7W	494	MS	36	0	0	0	0.6	5.5	5.5
76762	17.5N	99.5W	1265	MS	97	0	0	0	0.7	5.4	5.4
76843	16.8N	93.1W	528	MS	113	0	0	0	0.9	-4.9	5.0
78588	17.2N	87.5W	-295	M	121	121	100	0			
78627	15.3N	91.5W	1901	S	39	2	5	49	0.7	4.1	4.2

WMO REGION 5:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS

92010	6.1S	145.4E	1587	M	25	1	4	0	0.7	10.4	10.4
94130	14.8S	131.9E	120	MS	122	0	0	0	0.9	5.6	5.7
97284	8.6S	120.5E	1170	S	84	0	0	0	0.9	4.5	4.6
97378	10.7S	123.1E	1	MS	20	20	100	0			

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01360	61.9N	7.9E	711	MS	120	0	0	0	1.3	7.3	7.4
04301	83.7N	33.4W	4	MS	31	29	94	0	0.3	-0.2	0.4
04330	74.3N	20.2W	44	MS	113	0	0	0	1.2	-4.7	4.9
04416	72.6N	38.4W	3202	S	116	1	1	1	0.7	4.0	4.1
06239	54.9N	44.7E	49	MS	366	81	22	0	7.6	-2.3	7.9
06605	47.1N	7.1E	1599	S8	122	0	0	2	1.4	-4.2	4.4
08550	39.1N	8.4W	167	MS	30	7	23	100	1.4	13.2	13.3
08912	42.9N	0.8W	1434	MS	86	86	100	0			
10850	48.8N	10.7E	457	MS	365	0	0	0	0.4	-5.8	5.8
11116	47.5N	10.8E	870	MS	59	0	0	0	0.8	4.7	4.8
13269	44.3N	19.9E	176	MS	121	0	0	0	1.0	7.9	8.0
14554	44.9N	18.4E	136	S	58	7	12	0	0.6	-14.1	14.1
16344	39.3N	16.4E	1710	S8	311	0	0	0	1.3	4.1	4.3
16450	37.6N	14.3E	940	S8	120	1	1	0	0.8	-4.2	4.3
16538	40.1N	9.3E	1022	S	33	0	0	0	0.6	9.1	9.1
17521	35.2N	33.5E	285	MS	109	109	100	0			
40030	35.1N	36.8E	301	M	112	0	0	0	0.9	-4.3	4.4

ANTARCTIC:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89263	66.0S	66.1W	20	M	258	46	18	0	5.0	7.4	8.9
89266	72.2S	60.2W	91	S	334	324	97	0	6.4	-4.4	7.8
89610	65.9S	113.1E	90	S	351	0	0	0	1.0	-9.5	9.6
89614	66.7S	111.5E	500	S	342	342	100	0			
89648	72.5S	145.9E	2508	S	147	147	100	29			
89661	73.5S	169.8E	200	S	462	462	100	3			
89666	76.7S	163.0E	200	S	465	1	0	20	1.4	6.5	6.6
89769	78.5S	168.4E	50	S	838	0	0	0	1.9	-4.8	5.2
89811	66.7S	112.5E	1366	S	345	0	0	0	0.8	-4.6	4.7

TABLE 4A

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

NB : All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAH	2304	0	42	1.5	0.2	2291	0	42	0	6.4	0.4
AAL	8874	0	21	1.4	0.1	8294	0	22	0	5.7	0.3
AAR	645	1	7	1.8	-0.5	628	0	7	0	7.6	-0.2
ACA	3288	0	8	1.5	-0.2	2791	0	8	0	6.2	0.5
ACF	53	0	40	3.6	-0.2	27	0	59	0	21.8	-1.2
ACI	128	0	20	0.8	0.3	123	0	18	0	5.1	-0.2
AEA	1326	0	4	1.9	0.3	1105	0	6	0	8.1	0.2
AFL	515	0	7	1.9	0.4	251	1	100	0	8.3	0.2
AFR	5363	0	4	1.4	0.1	5100	0	4	0	5.8	0.7
AFZ	42672	0	11	1.6	1.1	42672	0	11	0	5.2	0.7
AJM	228	1	11	2.2	-0.3	162	0	10	0	11.3	0.3
AJX	273	0	5	2.0	0.3	274	1	5	0	7.1	1.3
AMT	1784	1	40	1.6	-0.1	1785	0	41	0	7.6	0.1
AMX	395	1	6	2.1	-0.1	332	0	8	0	11.3	-0.4
ANA	23	0	0	1.0	-0.2	23	4	9	0	8.4	-0.3
ANZ	7953	0	30	1.3	0.3	7912	0	30	0	6.2	-0.2
ATN	92	3	100	3.5	-2.0	65	0	14	0	12.6	2.5
AUA	504	0	3	1.4	0.4	477	0	3	0	4.6	0.9
AVA	405	0	2	1.5	0.0	405	0	4	0	7.9	-0.1
AVN	145	0	47	0.8	-0.1	142	0	47	0	6.2	0.6
AWE	843	1	12	1.5	-0.5	831	0	11	0	6.7	0.0
AXF	89	0	39	1.3	0.6	89	0	39	0	6.7	0.7
AZA	440	0	7	2.2	0.8	371	0	6	0	9.9	-0.2
BAL	446	0	7	1.6	-0.2	432	0	8	0	8.3	0.0
BAW	708	1	24	1.9	-0.4	464	0	18	0	7.0	-0.1
BBR	165	0	1	1.5	-0.6	160	1	4	0	9.6	-0.7
BHP	49	0	4	2.0	-1.0	45	0	2	0	8.0	0.3
BMA	416	0	5	2.0	-0.3	350	0	3	0	5.3	0.3
BPA	511	2	17	2.9	1.1	488	0	9	0	9.3	0.7
BSK	30	3	20	2.0	0.1	25	0	20	0	6.6	-0.5
BWA	402	1	5	1.9	-0.2	331	0	2	0	7.2	0.0
CAL	21	5	14	2.9	-0.5	21	0	14	0	13.0	-2.2
CCA	345	1	15	2.5	0.0	325	0	100	0	12.2	-1.6
CES	427	1	6	2.2	-0.3	424	1	5	0	8.0	0.7
CFC	39	3	8	1.8	-0.5	41	0	7	0	7.9	1.4
CFG	1054	1	7	1.7	0.0	891	1	9	0	9.9	0.1
CFY	130	0	2	1.1	-0.4	117	0	1	0	3.4	0.7
CGD	75	0	1	1.1	-0.5	69	0	1	0	4.1	0.7
CGF	338	0	1	1.1	-0.3	315	0	1	0	3.4	0.6
CGH	337	0	2	1.1	-0.3	304	0	2	0	3.5	0.6
CKK	153	2	10	1.7	0.5	153	0	10	0	10.9	-0.2
CKS	292	0	29	1.8	0.2	234	0	33	0	9.3	-0.1
CLX	285	0	7	2.0	-0.5	127	0	100	0	9.8	0.1
CNJ	36190	0	75	1.2	0.5	36190	0	75	0	4.5	0.3
COA	4952	0	9	1.4	0.0	4640	0	9	0	5.0	0.5
CRL	131	2	8	1.6	0.1	118	1	7	0	8.3	0.0
CSA	67	0	1	1.6	-0.4	51	0	4	0	6.5	1.5
CSD	78	0	15	2.1	0.6	41	0	12	0	6.3	-0.9
CSN	121	2	6	1.5	0.4	119	0	3	0	7.6	0.5
CUB	321	1	7	2.2	0.0	255	0	100	0	11.1	0.6
DAB	943	0	2	1.4	0.1	872	0	2	0	3.9	0.6
DAI	853	0	3	1.1	0.2	801	0	2	0	3.5	0.7
DAL	3959	0	29	1.6	0.5	3902	0	29	0	5.7	0.1
DLH	4429	0	4	1.3	0.1	4185	0	3	0	4.3	0.5
DRD	495	1	5	1.9	-0.3	489	1	4	0	7.3	0.2
EDW	79	0	6	1.7	0.0	61	0	10	0	11.0	0.1
EEZ	162	1	12	2.3	0.1	158	1	9	0	8.6	1.8
EIA	299	0	20	3.0	1.0	278	0	100	0	16.5	2.5
ELY	452	0	2	1.3	0.1	408	0	2	0	5.6	0.9

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
ESS	143	1	100	3.1	1.9	34	0	6	0	7.7	1.0
EVA	339	1	7	1.5	0.3	340	0	6	0	6.2	0.2
FCA	168	1	100	1.8	0.2	128	1	2	0	7.9	-0.9
FDX	1432	1	48	1.3	0.1	1315	0	49	0	7.3	0.4
FFP	25	0	0	1.4	-0.1	23	0	9	0	11.3	2.1
FGE	29	0	0	1.1	-0.3	28	0	0	0	3.0	0.7
FGI	217	0	3	1.2	-0.4	202	0	2	0	3.8	0.5
FGL	198	0	1	1.3	0.1	185	0	0	0	4.3	1.4
FGN	50	0	2	1.2	0.3	46	0	2	0	3.3	0.8
FGS	487	0	2	1.3	0.2	457	0	2	0	4.0	0.8
FGZ	31	0	3	1.2	0.1	30	0	3	0	6.1	1.3
FIF	33	0	6	1.7	0.7	25	0	8	0	11.5	1.0
FIN	334	1	4	1.2	0.0	260	0	3	0	6.8	0.1
FJI	755	1	33	1.7	0.7	749	0	32	0	6.6	1.0
FOM	812	0	27	1.4	-0.5	811	0	27	0	6.3	0.4
FWI	620	1	8	1.9	-0.5	601	0	8	0	9.1	0.0
GCO	116	1	6	1.9	0.1	106	0	100	0	9.4	1.1
GEC	536	0	25	1.6	-0.1	515	0	25	0	8.0	0.6
GLO	41	7	41	2.1	1.0	38	0	39	0	15.0	-0.8
GOJ	44	0	0	1.2	0.1	39	0	0	0	4.7	0.0
GRL	94	0	0	1.2	0.2	71	1	3	0	4.7	0.4
GTI	134	1	4	2.1	0.6	106	0	5	0	9.7	0.2
GVA	93	0	3	1.3	-0.3	83	0	2	0	4.4	1.0
GVB	99	0	0	1.0	0.1	95	0	0	0	3.3	0.5
GVF	74	0	1	1.1	-0.4	66	0	2	0	4.1	0.9
GVG	76	0	0	1.5	-0.9	72	0	0	0	3.9	0.9
GVH	35	0	6	1.5	-0.8	33	0	6	0	4.3	1.1
GVL	53	0	2	1.0	0.3	52	0	2	0	3.3	0.5
GVR	204	0	0	1.3	-0.1	194	0	1	0	4.6	0.2
GVT	43	0	2	1.3	-0.1	36	0	3	0	3.4	0.6
GVW	67	0	1	1.3	-0.3	63	0	2	0	4.2	0.2
GVX	78	0	1	1.2	0.0	74	0	0	0	4.1	0.2
GWW	37	0	0	1.1	-0.2	32	0	0	0	3.1	0.3
HAL	4314	0	38	2.0	0.5	4287	0	37	0	7.5	0.1
HBI	215	0	1	1.2	-0.3	205	0	1	0	4.6	0.6
HBJ	86	0	0	1.1	-0.3	82	0	0	0	3.8	0.9
HMY	85	1	35	1.8	0.1	78	1	32	0	7.1	1.2
IBE	3796	1	3	1.6	0.0	3759	0	5	0	7.8	0.2
ICE	906	0	4	1.5	0.0	476	0	3	0	5.5	0.9
ISR	65	2	8	1.7	0.1	38	0	5	0	9.5	-0.8
IWD	475	0	3	1.8	-0.6	475	0	3	0	6.7	0.2
JAL	972	1	4	1.6	0.1	941	0	6	0	9.0	0.1
JAZ	1047	0	4	1.8	0.3	1045	0	5	0	8.5	1.1
JBU	20	0	0	1.3	0.1	24	0	4	0	10.5	-2.7
JKK	23	0	0	1.2	-0.3	23	0	9	0	12.1	3.3
JST	612	1	27	1.4	0.0	606	0	26	0	5.9	0.2
KAC	96	0	1	1.5	0.6	95	0	1	0	4.3	0.6
KAI	26	0	12	2.6	1.8	23	0	9	0	5.6	0.2
KAL	1010	1	9	1.8	-0.2	1009	1	10	0	7.9	-0.2
KLM	1434	0	11	1.8	0.0	1076	0	13	0	8.5	0.2
LAN	751	0	2	1.6	0.1	747	0	2	0	5.4	0.4
LCO	41	0	7	1.8	0.0	39	0	5	0	7.8	-0.1
LNE	228	2	4	1.7	-0.1	228	1	7	0	9.8	-0.8
LNR	248	0	59	1.2	-0.2	230	0	61	0	3.4	0.6
LOB	40	23	45	1.7	-1.3	40	0	28	0	9.4	0.2
LOT	295	1	5	1.9	-0.8	151	0	3	0	5.9	0.0
LTU	894	2	7	1.9	-0.1	713	0	7	0	8.2	0.5
LVG	255	0	5	1.7	0.2	235	0	5	0	5.4	0.4
MAS	300	1	13	2.4	0.9	294	0	8	0	7.6	0.2

		TEMPERATURE				WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
MON	46	0	13	2.6	-0.7	39	5	15	0	5.9	0.0
MPD	426	0	1	1.5	0.4	405	0	3	0	8.0	-0.1
MPH	235	1	7	2.1	-1.1	177	0	8	0	10.8	-1.0
MSR	134	0	2	1.3	0.2	131	0	2	0	4.2	0.9
MXJ	243	1	11	1.9	0.2	132	1	7	0	7.3	0.0
MYT	163	1	6	1.9	-0.3	116	1	9	0	10.0	0.0
NAO	103	0	7	2.1	-0.2	91	0	7	0	10.7	0.2
NCA	825	0	4	1.7	0.2	639	0	5	0	7.6	0.0
NOS	231	0	7	2.1	0.0	168	0	10	0	10.7	-0.9
NVR	58	0	10	1.7	-0.1	35	0	17	0	7.3	-1.0
NWA	8987	0	15	1.7	0.1	8803	0	16	0	7.5	0.3
NZL	6215	0	10	1.1	0.0	6215	0	10	0	5.0	0.2
OAE	409	1	27	1.4	-0.3	304	0	35	0	8.6	0.9
OOM	139	0	12	2.2	0.1	97	0	9	0	6.9	0.3
OYK	452	0	54	1.1	-0.2	420	0	55	0	3.5	0.6
PAC	395	0	6	1.8	0.0	359	0	6	0	7.3	-0.1
PAL	1590	1	3	1.7	0.0	1575	1	5	0	8.7	0.7
PBI	1214	1	45	1.3	-0.1	1211	0	45	0	6.4	0.2
PLM	217	0	1	2.0	0.7	192	1	5	0	8.0	0.4
QFA	4017	0	55	1.2	0.4	3988	0	55	0	5.9	-0.2
RAM	393	0	5	2.0	-0.1	284	0	8	0	11.3	-0.4
RCH	351	1	100	3.0	-0.8	252	0	100	0	12.2	1.1
RRR	54	4	11	2.7	-1.3	48	0	4	0	7.7	0.7
RZO	661	1	5	2.0	-0.6	640	0	4	0	8.5	0.1
SAA	70	0	11	1.8	-0.6	73	0	12	0	10.4	-0.5
SAS	952	0	68	1.2	-0.1	917	0	68	0	3.9	0.8
SER	511	0	54	1.3	0.1	486	0	56	0	3.8	0.7
SEU	488	1	9	1.8	-0.2	432	1	9	0	8.8	0.8
SIA	796	0	3	1.3	0.2	781	0	3	0	4.5	0.2
SLM	133	0	3	1.4	0.3	133	0	5	0	8.1	0.3
SOO	47	0	0	1.2	0.4	45	0	2	0	6.9	1.3
SQC	368	0	2	1.3	-0.2	352	0	1	0	4.7	0.2
SSV	22	0	0	1.3	0.4	22	0	5	0	10.8	-3.3
SVH	303	0	8	1.7	1.3	303	0	8	0	5.2	0.9
SWR	1704	0	3	1.3	-0.4	1611	0	2	0	4.5	1.1
TAG	41	7	34	2.7	0.6	37	0	32	0	8.8	0.6
TAM	58	3	33	2.6	0.6	57	0	33	0	13.5	0.8
TAP	713	1	3	1.6	-0.6	644	1	4	0	8.0	0.6
TCV	43	2	100	3.5	3.2	45	0	9	0	12.0	1.0
TCX	233	0	3	1.7	0.1	218	0	3	0	5.7	0.5
TFL	132	0	14	1.8	-0.2	85	0	18	0	15.2	0.4
THA	233	0	8	1.1	0.3	234	0	8	0	4.9	0.8
THT	1744	0	27	0.9	0.2	1694	0	26	0	6.7	-2.6
TPA	23	0	0	1.4	0.0	21	0	0	0	5.6	0.5
TSC	74	0	5	2.2	-1.2	49	0	4	0	7.3	-0.4
TSE	31	0	6	1.3	0.7	32	0	16	0	16.9	-0.9
TSO	27	33	70	6.5	3.7	24	4	38	0	14.9	-2.1
TUB	94	2	7	1.8	-0.3	73	0	5	0	7.5	0.0
UAE	1152	0	6	1.4	0.2	1138	0	6	0	5.0	0.5
UAL	12672	0	32	1.4	-0.1	12660	0	33	0	6.2	0.6
UPS	1820	0	57	1.8	0.1	1338	0	58	0	6.7	0.5
USA	1674	0	2	1.3	-0.1	1564	0	2	0	4.7	0.8
UTY	50	0	42	1.4	0.5	50	0	42	0	6.9	1.4
VCV	35	0	0	1.2	-0.4	33	0	3	0	8.1	-1.1
VIR	2608	0	3	1.3	-0.3	2425	0	3	0	4.6	0.5
VLE	35	3	3	1.7	-1.4	31	0	3	0	8.3	-0.6
VRG	60	5	37	2.2	0.8	60	3	38	0	12.7	-1.5
VVJ	29	0	10	1.6	-0.2	29	0	10	0	9.6	0.8
VVR	40	0	13	2.0	-0.3	41	0	12	0	8.8	0.8

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
WHT	116	0	1	1.3	-0.4	101	0	5	0	10.0	0.2
WJA	28	0	21	1.6	-0.3	28	0	21	0	9.9	2.7
WOA	328	1	11	1.8	0.1	258	0	14	0	10.1	0.4
XLA	150	1	7	2.2	0.8	136	1	10	0	9.7	-0.4
ZKN	122	0	2	1.3	-0.2	120	0	3	0	4.2	0.6
ZKS	58	0	2	1.2	-0.1	55	0	2	0	4.2	1.1
9VS	106	0	1	1.2	0.0	101	0	1	0	4.3	0.2

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	58128	0	20	1.1	0.5	58162	0	18	0	5.1	0.5
B-	17161	0	62	1.7	0.7	12775	2	69	0	6.1	0.1
EU	290190	0	27	1.2	0.2	290190	0	26	0	4.3	0.3
HK	6880	0	10	1.3	0.1	6880	0	10	0	5.0	0.4
JP	65798	0	67	1.8	0.8	65798	0	66	0	5.3	0.4
LN	23	0	48	2.2	-0.1	20	0	50	0	13.9	1.0
MK	2455	0	5	1.8	1.6	2454	0	5	0	6.4	1.5
SA	4804	0	10	1.0	0.6	4804	0	11	0	4.8	1.0
TN	34	0	24	2.0	0.7	32	0	28	0	7.8	2.4
UA	349619	0	98	1.3	-0.2	349462	0	98	0	5.0	0.7

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	6058	0	13	1.5	-0.1	5613	0	13	0	4.8	0.6
S	22	0	5	1.0	0.7	21	0	5	0	4.5	0.3

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
US ACARS	1213090	0	68	1.4	0.3	1213077	0	68	0	5.2	0.6

TABLE 4B

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :1000.0 – 300.1 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP ≥ 20

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

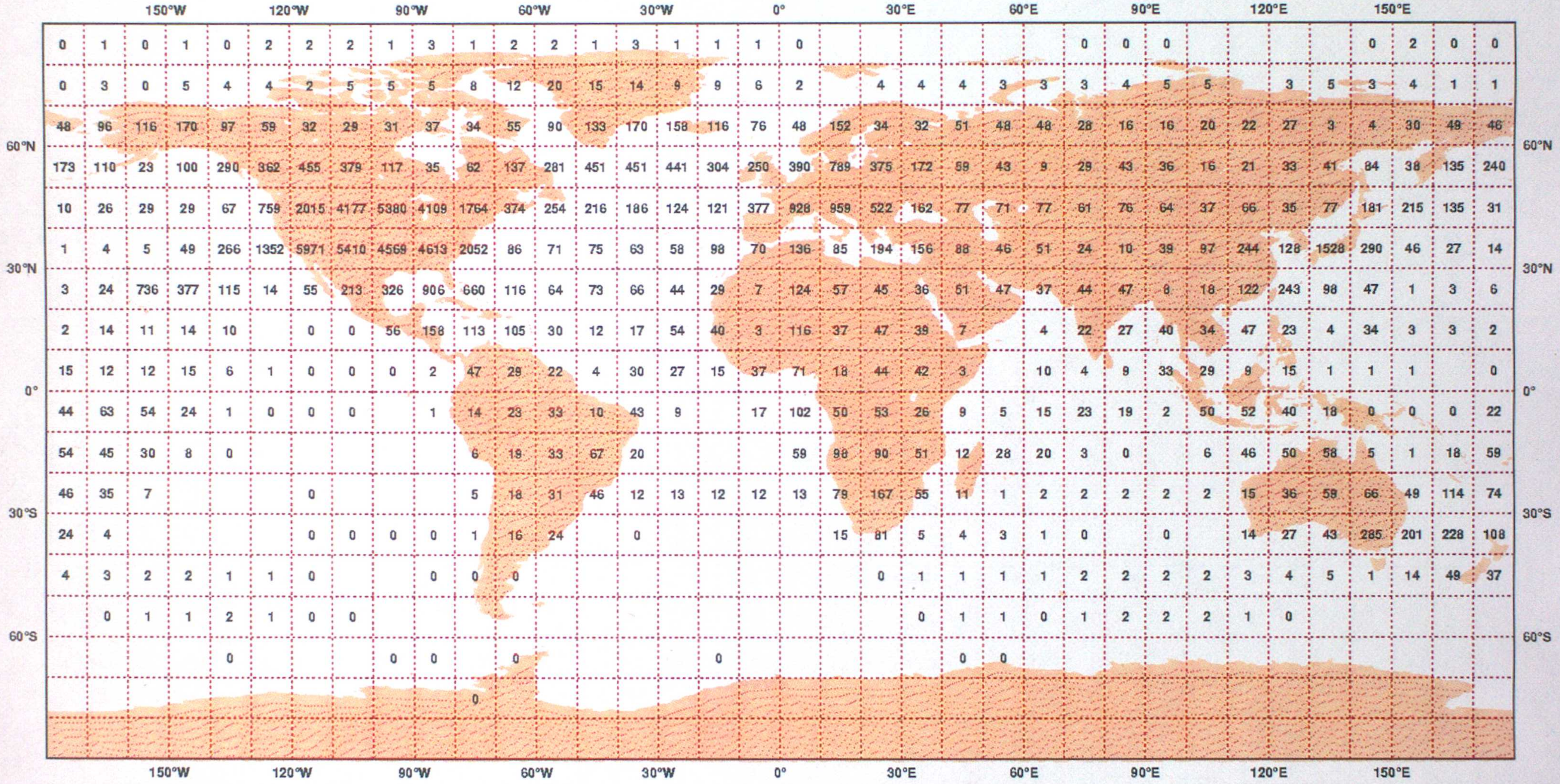
		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	182	1	30	1.3	-0.2	170	1	29	0	6.8	1.4
ACA	77	0	12	1.6	-0.1	69	0	9	0	7.9	1.1
AFR	107	0	13	1.5	0.0	96	0	10	0	9.0	-0.1
AFZ	43871	0	67	1.3	-0.4	43871	0	67	0	4.0	0.2
ANZ	345	1	11	1.2	0.2	350	0	11	0	4.7	0.0
ASY	20	30	80	7.3	5.3	20	0	40	0	5.6	-0.5
AXF	42	0	62	0.9	0.1	42	0	62	0	5.8	-1.6
CFC	48	8	10	1.1	0.2	36	0	3	0	6.0	-0.1
CKS	85	0	36	1.8	0.0	69	0	43	0	8.3	-0.8
CNJ	763387	0	86	1.8	0.8	763387	0	85	0	5.1	-0.2
COA	54	0	7	1.1	-0.3	51	0	8	0	6.1	1.3
DAF	35	0	0	1.1	0.3	26	0	8	0	11.0	-0.1
DAL	204	1	35	1.3	0.3	199	0	37	0	7.8	-0.1
DLH	26	0	15	1.1	0.6	22	0	14	0	5.4	0.3
EIA	23	13	13	1.0	-0.4	26	4	100	0	19.5	3.5
FDX	691	0	37	1.4	0.3	400	0	36	0	7.2	0.3
GAF	51	2	8	1.6	0.4	21	0	14	0	13.4	-3.5
GCO	72	0	13	1.5	0.2	59	0	100	0	13.3	0.0
GEC	247	0	16	1.5	0.0	231	0	15	0	10.3	0.4
HAL	456	1	38	1.9	-0.1	453	0	35	0	7.1	0.9
IBE	55	0	4	1.8	0.2	54	0	2	0	7.4	-0.4
JAL	34	3	6	1.3	-0.1	34	0	9	0	7.1	-0.8
JAZ	66	0	11	2.2	0.2	66	0	8	0	8.2	1.1
JKK	36	0	3	1.2	-0.4	36	3	11	0	13.2	1.2
KAL	48	0	21	1.7	-0.7	49	0	20	0	11.4	1.7
KIW	34	3	38	1.7	0.3	34	0	35	0	7.6	-0.6
KLM	64	0	8	1.7	0.6	51	2	12	0	9.2	0.2
LAN	50	0	8	1.4	-0.1	48	0	4	0	5.5	0.7
NCA	70	0	3	1.3	0.1	63	0	3	0	6.3	0.4
NWA	541	1	28	1.4	0.0	533	1	27	0	8.2	-0.1
NZL	25543	0	56	1.1	0.0	25543	0	56	0	4.4	0.0
OAE	47	4	30	2.1	0.2	28	0	32	0	8.6	1.8
OCE	21	0	10	3.1	2.7	21	0	0	0	4.0	1.1
PAC	45	0	4	1.6	0.2	31	0	6	0	5.4	-1.2
PAL	22	5	14	1.3	-0.3	22	0	14	0	15.0	-3.9
QFA	148	1	49	1.2	0.2	150	0	49	0	6.6	-0.6
RRR	51	2	14	2.7	0.8	46	0	15	0	12.8	-0.5
SIA	80	0	3	1.2	0.6	81	0	2	0	3.9	0.1
SVH	22544	0	60	1.7	1.1	22542	0	60	0	4.3	0.5
THT	251	0	58	0.9	-0.3	203	0	51	0	3.9	-1.3
UAE	109	0	3	1.2	0.8	109	0	3	0	4.4	0.9
UAL	243	5	35	1.6	-0.3	261	1	33	0	8.9	0.6
UPS	216	1	59	1.4	-0.1	132	0	58	0	6.2	0.1
VVR	24	0	8	2.2	-0.4	38	0	26	0	7.9	1.9
WOA	199	0	5	1.6	0.4	129	0	29	0	15.1	2.3

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	66339	0	68	1.1	0.3	66421	0	65	0	3.9	0.0
B-	75701	0	74	1.3	0.5	68594	0	75	0	4.5	0.2
EU	666756	0	67	1.0	0.1	661310	0	67	0	3.8	0.0
HK	22737	0	87	1.2	0.3	22737	0	87	0	4.3	0.1
JP	282668	0	82	1.3	0.3	282668	0	81	0	4.6	0.4
MK	2280	0	53	1.4	0.8	2280	0	53	0	4.4	0.7
SA	3946	0	70	1.3	0.2	3946	0	70	0	4.0	0.4
UA	265233	0	99	1.1	-0.3	264929	0	99	0	4.3	0.4

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS

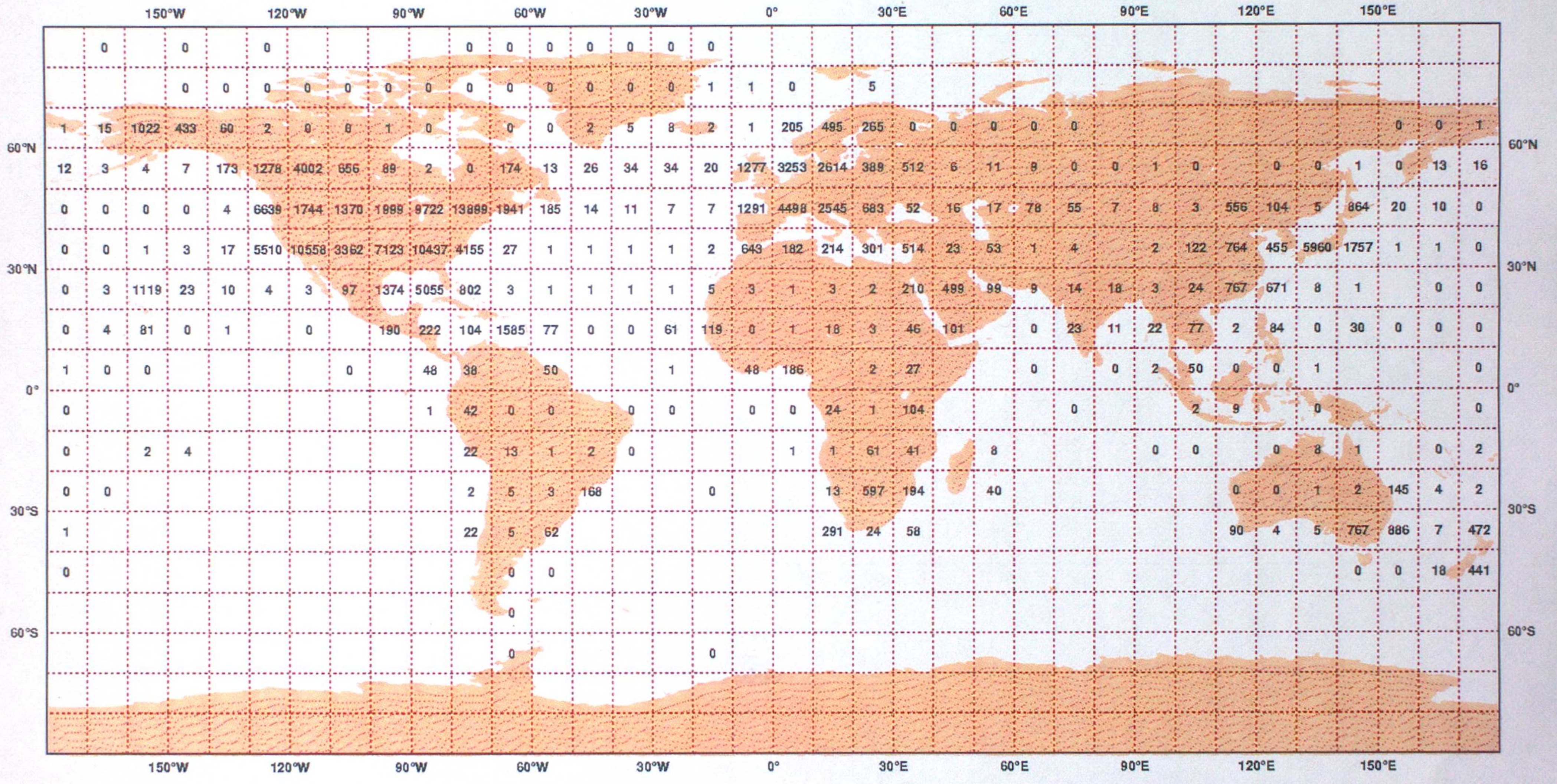
	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	71	3	18	2.6	1.1	53	0	17	0	11.2	1.0
US ACARS	2004620	0	81	1.2	0.2	1999897	0	82	0	4.1	0.2

Figure 3a. AIRCRAFT 300 - 150 hPa mean daily count. MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 71693



0	1	0	1	0	2	2	2	1	3	1	2	2	1	3	1	1	1	0							0	0	0					0	2	0	0
0	3	0	5	4	4	2	5	5	5	8	12	20	15	14	9	9	6	2		4	4	4	3	3	3	4	5	5		3	5	3	4	1	1
48	96	116	170	97	59	32	29	31	37	34	55	90	133	170	158	116	76	48	152	34	32	51	48	48	28	16	16	20	22	27	3	4	30	49	46
173	110	23	100	290	362	455	379	117	35	62	137	281	451	451	441	304	250	390	789	375	172	59	43	9	29	43	36	16	21	33	41	84	38	135	240
10	26	29	29	67	759	2015	4177	5380	4109	1764	374	254	216	186	124	121	377	928	959	522	162	77	71	77	61	76	64	37	66	35	77	181	215	135	31
1	4	5	49	266	1352	5971	5410	4569	4613	2052	86	71	75	63	58	98	70	136	85	194	156	88	46	51	24	10	39	97	244	128	1528	290	46	27	14
3	24	736	377	115	14	55	213	326	906	660	116	64	73	66	44	29	7	124	57	45	36	51	47	37	44	47	8	18	122	243	98	47	1	3	6
2	14	11	14	10		0	0	56	158	113	105	30	12	17	54	40	3	116	37	47	39	7		4	22	27	40	34	47	23	4	34	3	3	2
15	12	12	15	6	1	0	0	0	2	47	29	22	4	30	27	15	37	71	18	44	42	3		10	4	9	33	29	9	15	1	1	1		0
44	63	54	24	1	0	0	0		1	14	23	33	10	43	9		17	102	50	53	26	9	5	15	23	19	2	50	52	40	18	0	0	0	22
54	45	30	8	0						6	19	33	67	20				59	98	90	51	12	28	20	3	0		6	46	50	58	5	1	18	59
46	35	7				0				5	18	31	46	12	13	12	12	13	79	167	55	11	1	2	2	2	2	2	15	36	59	66	49	114	74
24	4					0	0	0	0	1	16	24		0					15	81	5	4	3	1	0		0		14	27	43	285	201	228	108
4	3	2	2	1	1	0			0	0	0									0	1	1	1	1	2	2	2	2	3	4	5	1	14	49	37
	0	1	1	2	1	0	0														0	1	1	0	1	2	2	2	1	0					
				0				0	0		0					0						0	0												
										0																									

Figure 3b. AIRCRAFT 1000 - 301 hPa mean daily count. MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 136533



	0		0		0					0	0	0	0	0	0	0																			
			0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0		5															
1	15	1022	433	60	2	0	0	1	0		0	0	2	5	8	2	1	205	495	265	0	0	0	0	0								0	0	1
12	3	4	7	173	1278	4002	656	89	2	0	174	13	26	34	34	20	1277	3253	2614	389	512	6	11	9	0	0	1	0		0	0	1	0	13	16
0	0	0	0	4	6639	1744	1370	1999	9722	13899	1941	185	14	11	7	7	1291	4498	2545	683	52	16	17	78	55	7	8	3	556	104	5	864	20	10	0
0	0	1	3	17	5510	10558	3362	7123	10437	4155	27	1	1	1	1	2	643	182	214	301	514	23	53	1	4		2	122	764	455	5960	1757	1	1	0
0	3	1119	23	10	4	3	97	1374	5055	802	3	1	1	1	1	5	3	1	3	2	210	499	99	9	14	18	3	24	767	671	8	1		0	0
0	4	81	0	1		0		190	222	104	1585	77	0	0	61	119	0	1	18	3	46	101		0	23	11	22	77	2	84	0	30	0	0	0
1	0	0					0		48	38		50			1		48	186		2	27			0		0	2	50	0	0	1				0
0									1	42	0	0		0	0		0	0	24	1	104				0			2	9		0				0
0		2	4							22	13	1	2	0				1	1	61	41		8				0	0		0	8	1		0	2
0	0									2	5	3	168			0			13	597	194		40						0	0	1	2	145	4	2
1										22	5	62							291	24	58								90	4	5	767	886	7	472
0											0	0																				0	0	18	441
											0																								
											0					0																			

Figure 4a. AIRCRAFT 300 - 150 hPa mean winds. MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

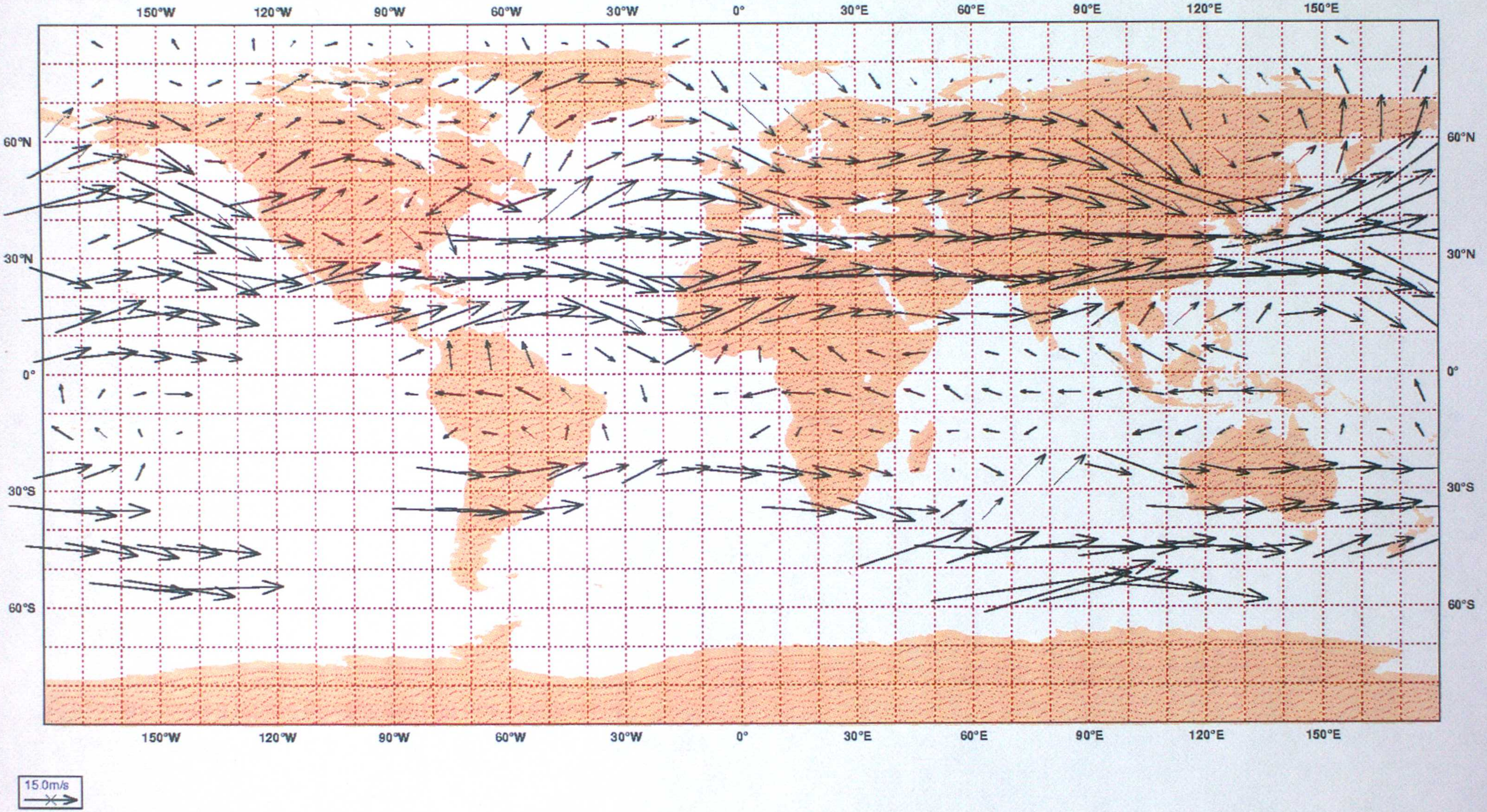

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 4b. AIRCRAFT 1000 - 301 hPa mean winds. MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

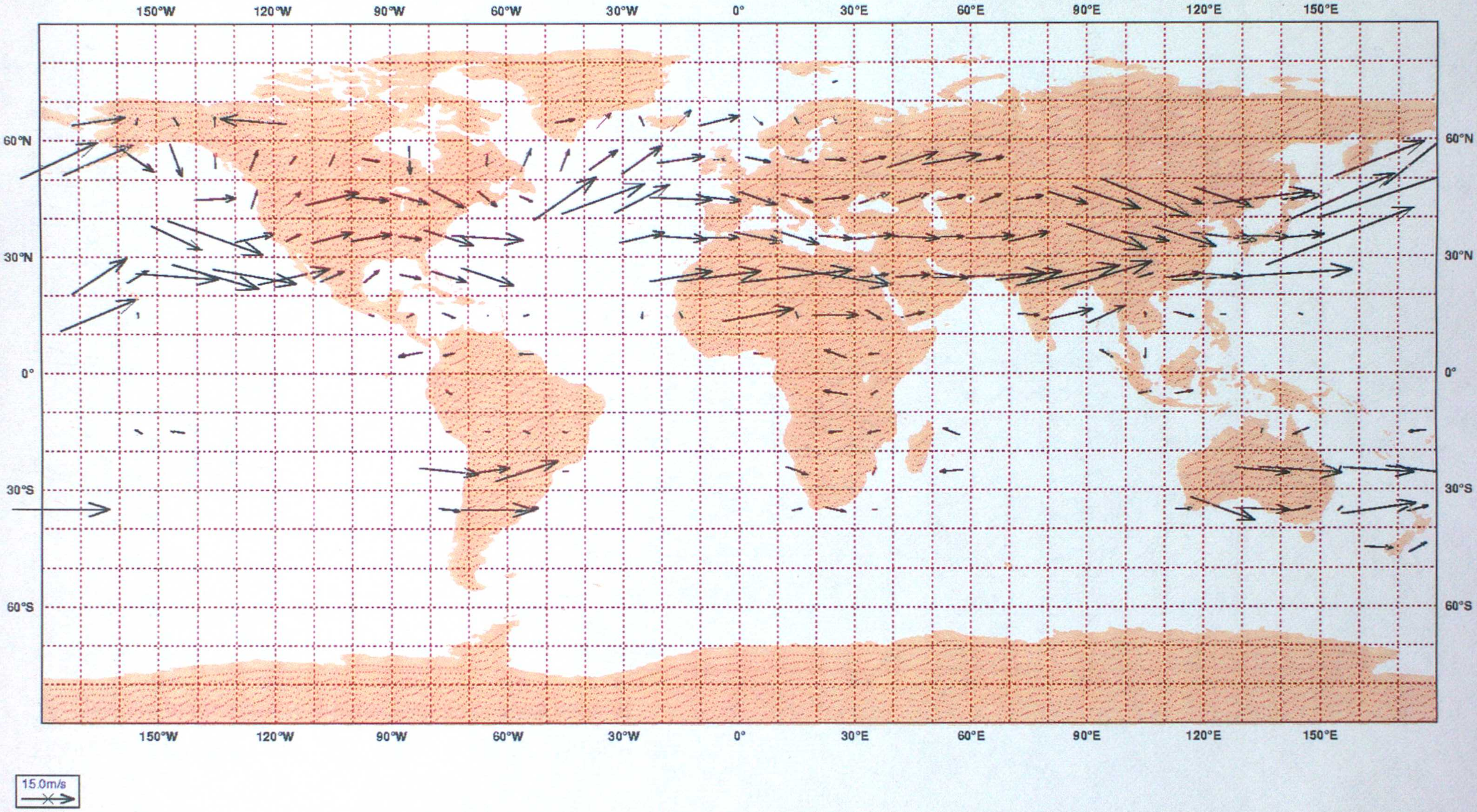

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5a. AIRCRAFT 300 - 150 hPa mean O-B winds. MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

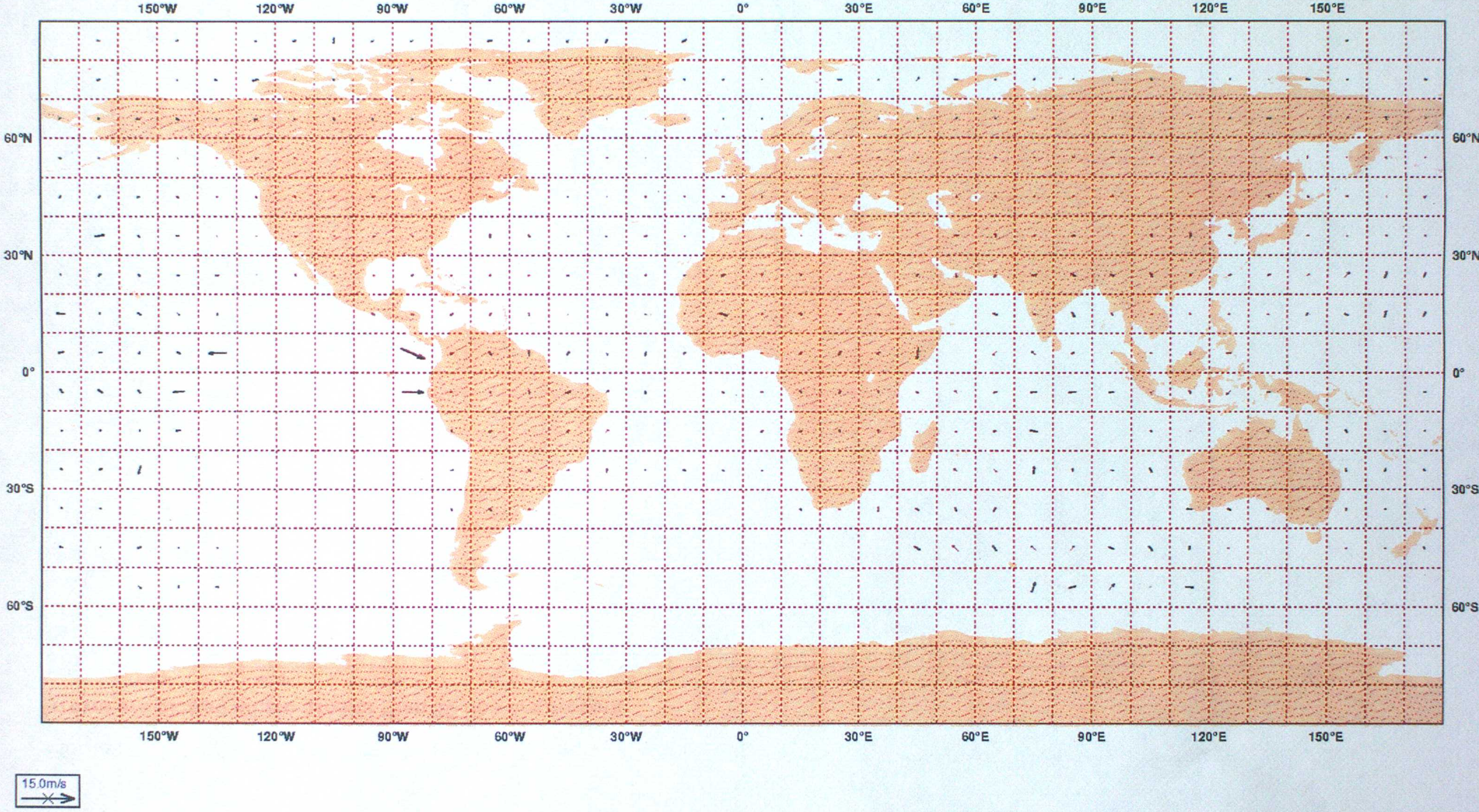

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5b. AIRCRAFT 1000 - 301 hPa mean O-B winds. MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

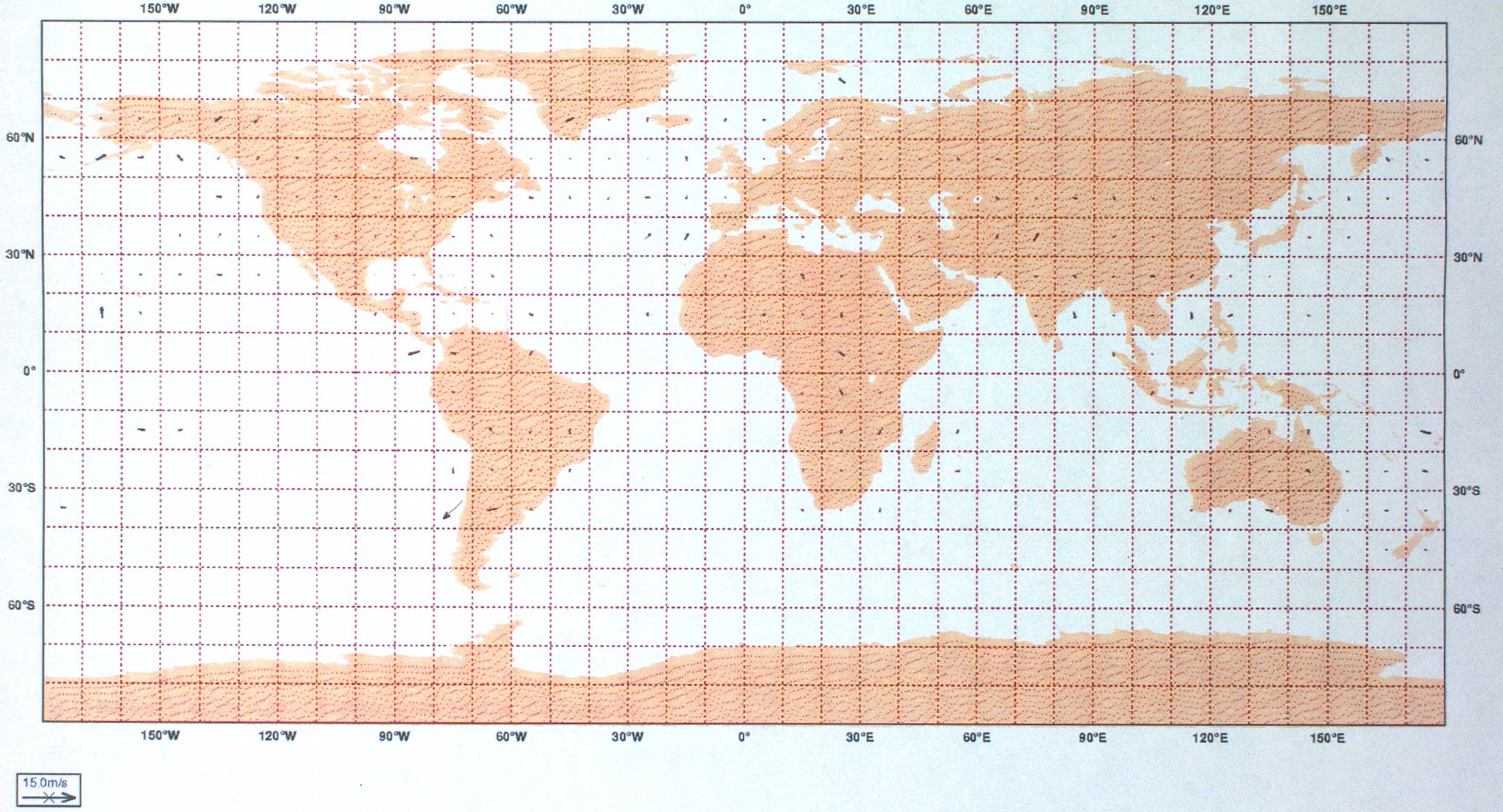
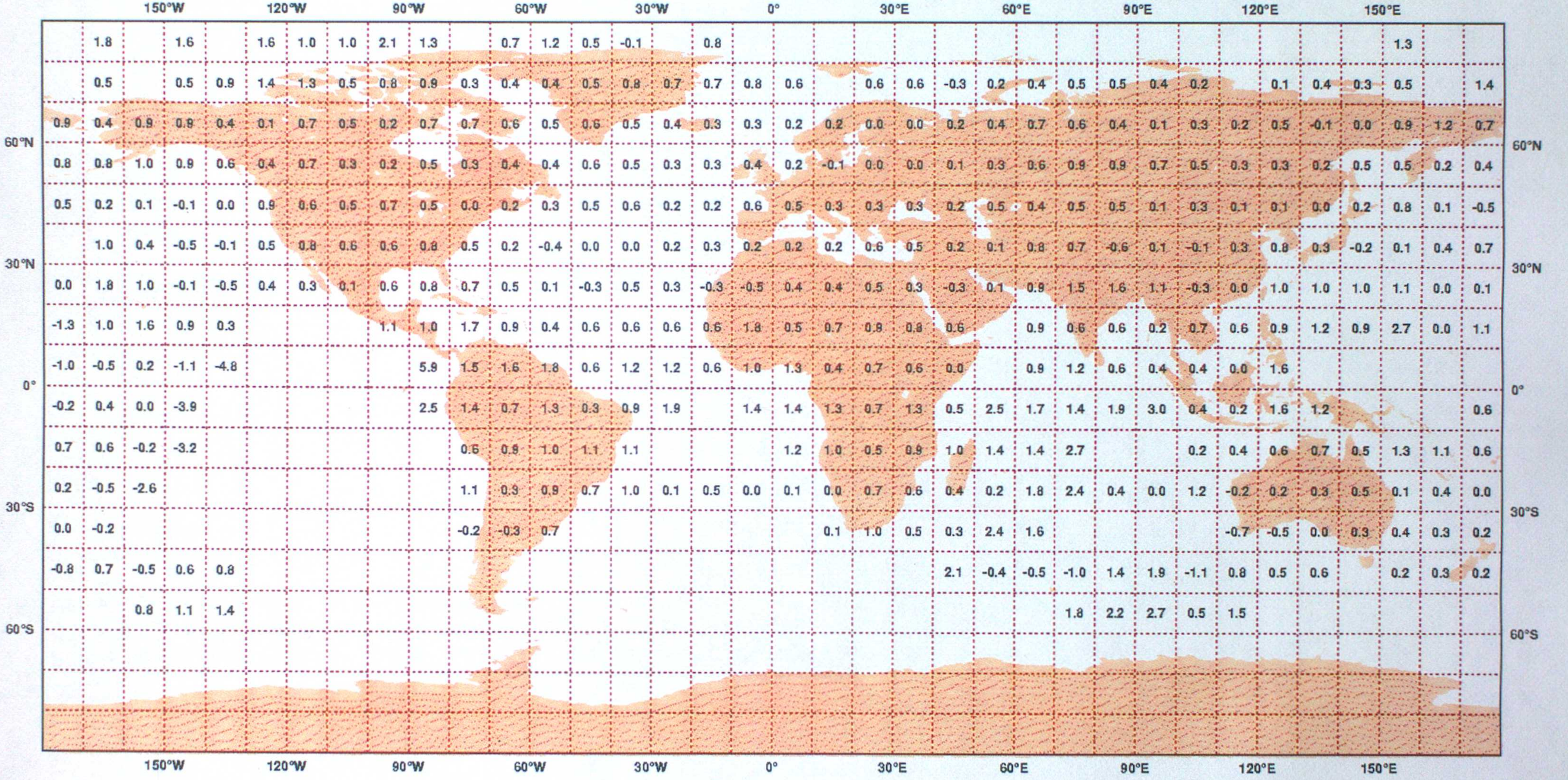

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 6a. AIRCRAFT 300 - 150 hPa mean O-B speeds (ms-1). MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present



	1.8		1.6		1.6	1.0	1.0	2.1	1.3		0.7	1.2	0.5	-0.1		0.8																	1.3		
	0.5		0.5	0.9	1.4	1.3	0.5	0.8	0.9	0.3	0.4	0.4	0.5	0.8	0.7	0.7	0.8	0.6		0.6	0.6	-0.3	0.2	0.4	0.5	0.5	0.4	0.2		0.1	0.4	0.3	0.5		1.4
0.9	0.4	0.9	0.9	0.4	0.1	0.7	0.5	0.2	0.7	0.7	0.6	0.5	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.2	0.4	0.7	0.6	0.4	0.1	0.3	0.2	0.5	-0.1	0.0	0.9	1.2	0.7
0.8	0.8	1.0	0.9	0.6	0.4	0.7	0.3	0.2	0.5	0.3	0.4	0.4	0.6	0.5	0.3	0.3	0.4	0.2	-0.1	0.0	0.0	0.1	0.3	0.6	0.9	0.9	0.7	0.5	0.3	0.3	0.2	0.5	0.5	0.2	0.4
0.5	0.2	0.1	-0.1	0.0	0.9	0.6	0.5	0.7	0.5	0.0	0.2	0.3	0.5	0.6	0.2	0.2	0.6	0.5	0.3	0.3	0.3	0.2	0.5	0.4	0.5	0.5	0.1	0.3	0.1	0.1	0.0	0.2	0.8	0.1	-0.5
	1.0	0.4	-0.5	-0.1	0.5	0.8	0.6	0.6	0.8	0.5	0.2	-0.4	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.6	0.5	0.2	0.1	0.8	0.7	-0.6	0.1	-0.1	0.3	0.8	0.3	-0.2	0.1	0.4	0.7
0.0	1.8	1.0	-0.1	-0.5	0.4	0.3	0.1	0.6	0.8	0.7	0.5	0.1	-0.3	0.5	0.3	-0.3	-0.5	0.4	0.4	0.5	0.3	-0.3	0.1	0.9	1.5	1.6	1.1	-0.3	0.0	1.0	1.0	1.0	1.1	0.0	0.1
-1.3	1.0	1.6	0.9	0.3				1.1	1.0	1.7	0.9	0.4	0.6	0.6	0.6	0.6	1.8	0.5	0.7	0.8	0.8	0.6		0.9	0.6	0.6	0.2	0.7	0.6	0.9	1.2	0.9	2.7	0.0	1.1
-1.0	-0.5	0.2	-1.1	-4.8					5.9	1.5	1.6	1.8	0.6	1.2	1.2	0.6	1.0	1.3	0.4	0.7	0.6	0.0		0.9	1.2	0.6	0.4	0.4	0.0	1.6					
-0.2	0.4	0.0	-3.9						2.5	1.4	0.7	1.3	0.3	0.9	1.9		1.4	1.4	1.3	0.7	1.3	0.5	2.5	1.7	1.4	1.9	3.0	0.4	0.2	1.6	1.2				0.6
0.7	0.6	-0.2	-3.2							0.6	0.9	1.0	1.1	1.1				1.2	1.0	0.5	0.9	1.0	1.4	1.4	2.7			0.2	0.4	0.6	0.7	0.5	1.3	1.1	0.6
0.2	-0.5	-2.6								1.1	0.3	0.9	0.7	1.0	0.1	0.5	0.0	0.1	0.0	0.7	0.6	0.4	0.2	1.8	2.4	0.4	0.0	1.2	-0.2	0.2	0.3	0.5	0.1	0.4	0.0
0.0	-0.2									-0.2	-0.3	0.7							0.1	1.0	0.5	0.3	2.4	1.6					-0.7	-0.5	0.0	0.3	0.4	0.3	0.2
-0.8	0.7	-0.5	0.6	0.8																		2.1	-0.4	-0.5	-1.0	1.4	1.9	-1.1	0.8	0.5	0.6		0.2	0.3	0.2
		0.8	1.1	1.4																					1.8	2.2	2.7	0.5	1.5						

Figure 6b. AIRCRAFT 1000 - 301 hPa mean O-B speeds (ms-1). MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

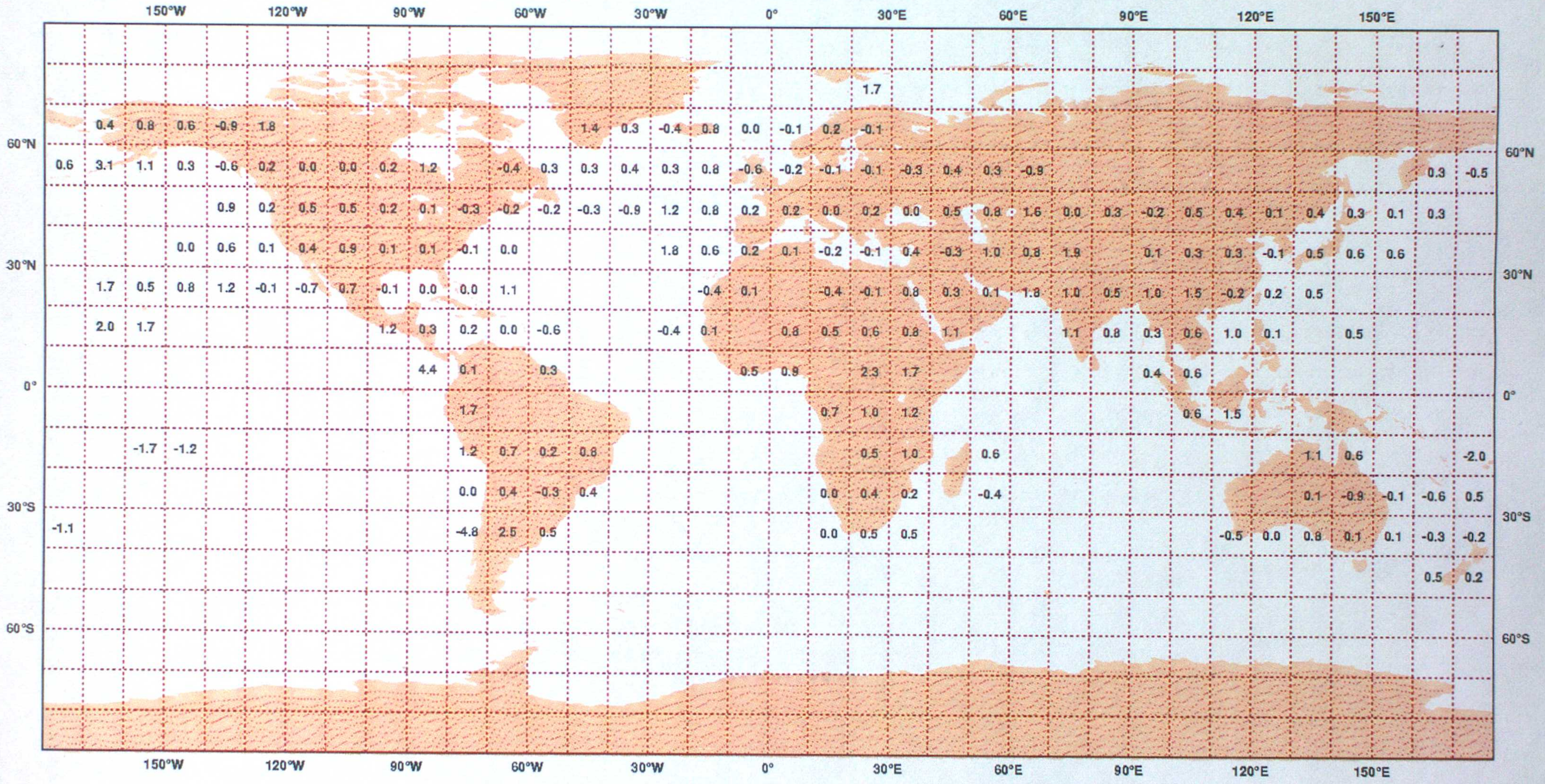

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
1.7
0.4 0.8 0.6 -0.9 1.8 1.4 0.3 -0.4 0.8 0.0 -0.1 0.2 -0.1
0.6 3.1 1.1 0.3 -0.6 0.2 0.0 0.0 0.2 1.2 -0.4 0.3 0.3 0.4 0.3 0.8 -0.6 -0.2 -0.1 -0.1 -0.3 0.4 0.3 -0.9 0.3 -0.5
0.9 0.2 0.5 0.5 0.2 0.1 -0.3 -0.2 -0.2 -0.3 -0.9 1.2 0.8 0.2 0.2 0.0 0.2 0.0 0.5 0.8 1.6 0.0 0.3 -0.2 0.5 0.4 0.1 0.4 0.3 0.1 0.3
0.0 0.6 0.1 0.4 0.9 0.1 0.1 -0.1 0.0 1.8 0.6 0.2 0.1 -0.2 -0.1 0.4 -0.3 1.0 0.8 1.9 0.1 0.3 0.3 -0.1 0.5 0.6 0.6
1.7 0.5 0.8 1.2 -0.1 -0.7 0.7 -0.1 0.0 0.0 1.1 -0.4 0.1 -0.4 -0.1 0.8 0.3 0.1 1.8 1.0 0.5 1.0 1.5 -0.2 0.2 0.5
2.0 1.7 1.2 0.3 0.2 0.0 -0.6 -0.4 0.1 0.8 0.5 0.6 0.8 1.1 1.1 0.8 0.3 0.6 1.0 0.1 0.5
4.4 0.1 0.3 0.5 0.9 2.3 1.7 0.4 0.6
1.7 0.7 1.0 1.2 0.6 1.5
-1.7 -1.2 1.2 0.7 0.2 0.8 0.5 1.0 0.6 1.1 0.6 -2.0
0.0 0.4 -0.3 0.4 0.0 0.4 0.2 -0.4 0.1 -0.9 -0.1 -0.6 0.5
-1.1 -4.8 2.5 0.5 0.0 0.5 0.5 -0.5 0.0 0.8 0.1 0.1 -0.3 -0.2
0.5 0.2

Figure 7a. AIRCRAFT 300 - 150 hPa RMS O-B vector (ms-1). MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

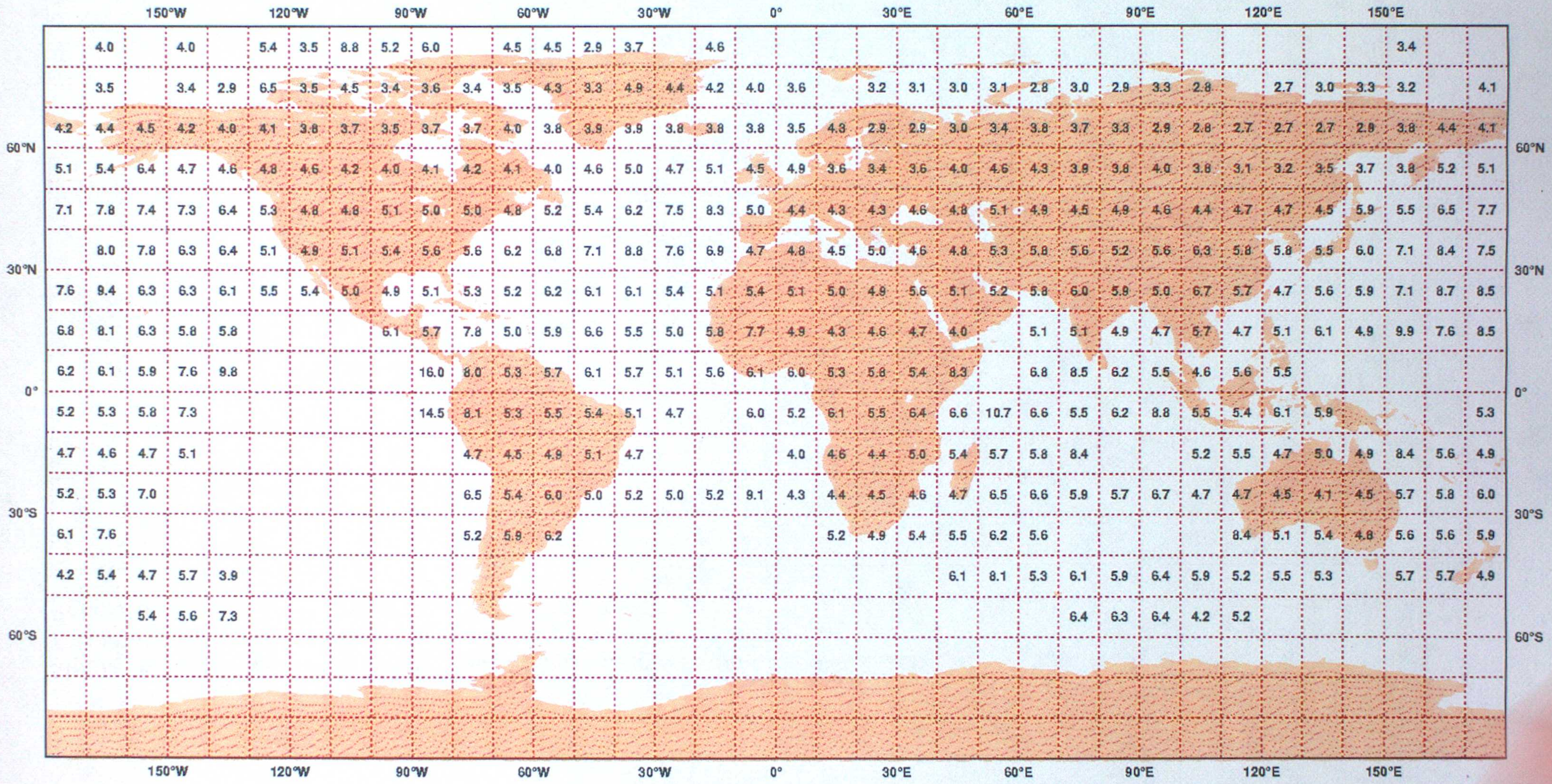

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
4.0 4.0 5.4 3.5 8.8 5.2 6.0 4.5 4.5 2.9 3.7 4.6 3.4
3.5 3.4 2.9 6.5 3.5 4.5 3.4 3.6 3.4 3.5 4.3 3.3 4.9 4.4 4.2 4.0 3.6 3.2 3.1 3.0 3.1 2.8 3.0 2.9 3.3 2.8 2.7 3.0 3.3 3.2 4.1
4.2 4.4 4.5 4.2 4.0 4.1 3.8 3.7 3.5 3.7 3.7 4.0 3.8 3.9 3.9 3.8 3.8 3.8 3.5 4.3 2.9 2.9 3.0 3.4 3.8 3.7 3.3 2.9 2.8 2.7 2.7 2.7 2.8 3.8 4.4 4.1
5.1 5.4 6.4 4.7 4.6 4.8 4.6 4.2 4.0 4.1 4.2 4.1 4.0 4.6 5.0 4.7 5.1 4.5 4.9 3.6 3.4 3.6 4.0 4.6 4.3 3.9 3.8 4.0 3.8 3.1 3.2 3.5 3.7 3.8 5.2 5.1
7.1 7.8 7.4 7.3 6.4 5.3 4.8 4.8 5.1 5.0 5.0 4.8 5.2 5.4 6.2 7.5 8.3 5.0 4.4 4.3 4.3 4.6 4.8 5.1 4.9 4.5 4.9 4.6 4.4 4.7 4.7 4.5 5.9 5.5 6.5 7.7
8.0 7.8 6.3 6.4 5.1 4.9 5.1 5.4 5.6 5.6 6.2 6.8 7.1 8.8 7.6 6.9 4.7 4.8 4.5 5.0 4.6 4.8 5.3 5.8 5.6 5.2 5.6 6.3 5.8 5.8 5.5 6.0 7.1 8.4 7.5
7.6 9.4 6.3 6.3 6.1 5.5 5.4 5.0 4.9 5.1 5.3 5.2 6.2 6.1 6.1 5.4 5.1 5.4 5.1 5.0 4.9 5.6 5.1 5.2 5.8 6.0 5.9 5.0 6.7 5.7 4.7 5.6 5.9 7.1 8.7 8.5
6.8 8.1 6.3 5.8 5.8 6.1 5.7 7.8 5.0 5.9 6.6 5.5 5.0 5.8 7.7 4.9 4.3 4.6 4.7 4.0 5.1 5.1 4.9 4.7 5.7 4.7 5.1 6.1 4.9 9.9 7.6 8.5
6.2 6.1 5.9 7.6 9.8 16.0 8.0 5.3 5.7 6.1 5.7 5.1 5.6 6.1 6.0 5.3 5.8 5.4 8.3 6.8 8.5 6.2 5.5 4.6 5.6 5.5
5.2 5.3 5.8 7.3 14.5 8.1 5.3 5.5 5.4 5.1 4.7 6.0 5.2 6.1 5.5 6.4 6.6 10.7 6.6 5.5 6.2 8.8 5.5 5.4 6.1 5.9 5.3
4.7 4.6 4.7 5.1 4.7 4.5 4.9 5.1 4.7 4.0 4.6 4.4 5.0 5.4 5.7 5.8 8.4 5.2 5.5 4.7 5.0 4.9 8.4 5.6 4.9
5.2 5.3 7.0 6.5 5.4 6.0 5.0 5.2 5.0 5.2 9.1 4.3 4.4 4.5 4.6 4.7 6.5 6.6 5.9 5.7 6.7 4.7 4.7 4.5 4.1 4.5 5.7 5.8 6.0
6.1 7.6 5.2 5.9 6.2 5.2 4.9 5.4 5.5 6.2 5.6 8.4 5.1 5.4 4.8 5.6 5.6 5.9
4.2 5.4 4.7 5.7 3.9 6.1 8.1 5.3 6.1 5.9 6.4 5.9 5.2 5.5 5.3 5.7 5.7 4.9
5.4 5.6 7.3 6.4 6.3 6.4 4.2 5.2

Figure 7b. AIRCRAFT 1000 - 301 hPa RMS O-B vector (ms-1). MARCH 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

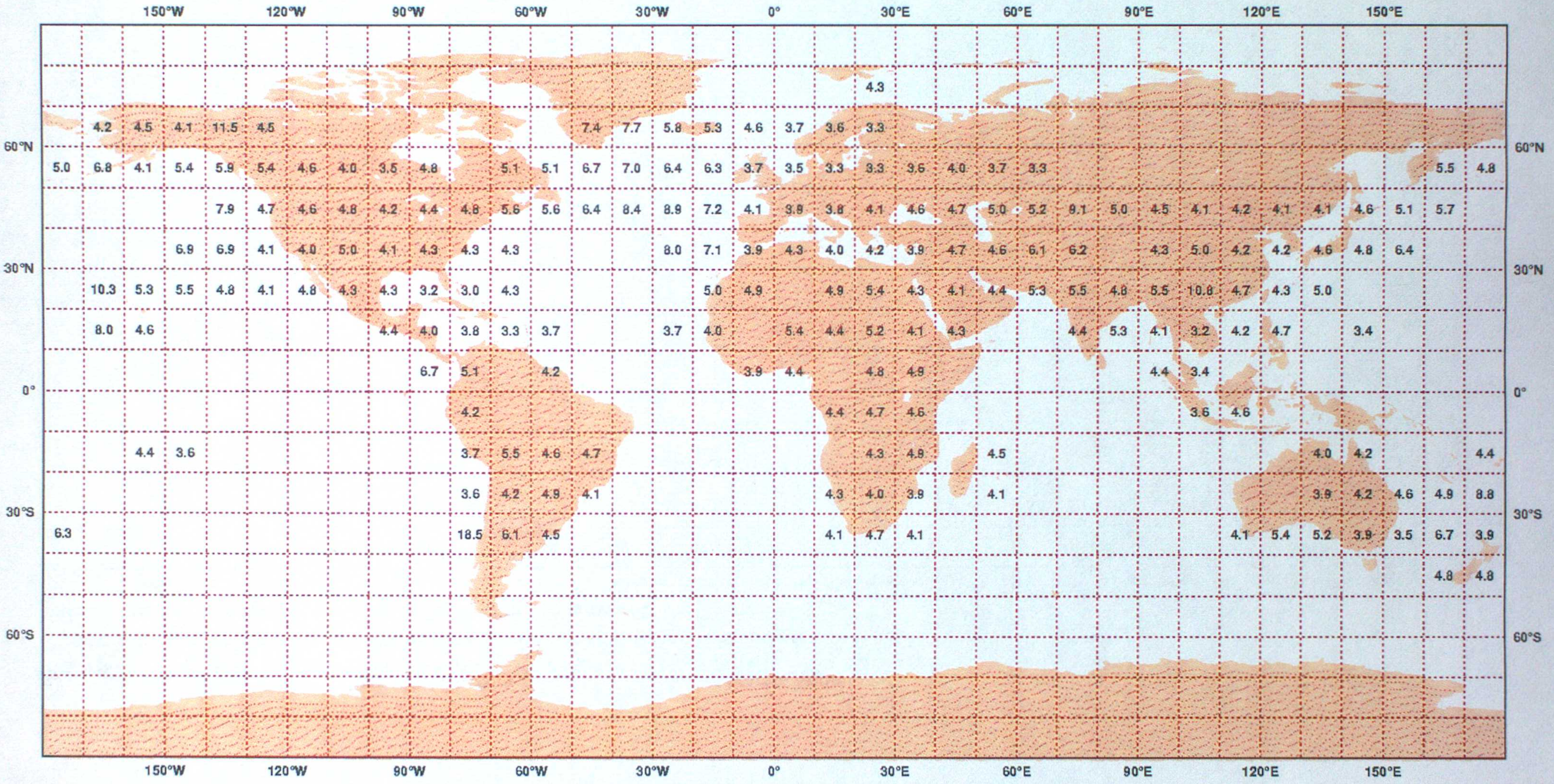

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
4.3
4.2 4.5 4.1 11.5 4.5 7.4 7.7 5.8 5.3 4.6 3.7 3.6 3.3
5.0 6.8 4.1 5.4 5.9 5.4 4.6 4.0 3.5 4.8 5.1 5.1 6.7 7.0 6.4 6.3 3.7 3.5 3.3 3.3 3.6 4.0 3.7 3.3 5.5 4.8
7.9 4.7 4.6 4.8 4.2 4.4 4.8 5.6 5.6 6.4 8.4 8.9 7.2 4.1 3.8 3.8 4.1 4.6 4.7 5.0 5.2 8.1 5.0 4.5 4.1 4.2 4.1 4.1 4.6 5.1 5.7
6.9 6.9 4.1 4.0 5.0 4.1 4.3 4.3 4.3 8.0 7.1 3.9 4.3 4.0 4.2 3.9 4.7 4.6 6.1 6.2 4.3 5.0 4.2 4.2 4.6 4.8 6.4
10.3 5.3 5.5 4.8 4.1 4.8 4.3 4.3 3.2 3.0 4.3 5.0 4.9 4.9 5.4 4.3 4.1 4.4 5.3 5.5 4.8 5.5 10.8 4.7 4.3 5.0
8.0 4.6 4.4 4.0 3.8 3.3 3.7 3.7 4.0 5.4 4.4 5.2 4.1 4.3 4.4 5.3 4.1 3.2 4.2 4.7 3.4
6.7 5.1 4.2 3.9 4.4 4.8 4.9 4.4 3.4
4.2 4.4 4.7 4.6 3.6 4.6
4.4 3.6 3.7 5.5 4.6 4.7 4.3 4.9 4.5 4.0 4.2 4.4
3.6 4.2 4.9 4.1 4.3 4.0 3.9 4.1 3.9 4.2 4.6 4.9 8.8
6.3 18.5 6.1 4.5 4.1 4.7 4.1 4.1 5.4 5.2 3.9 3.5 6.7 3.9
4.8 4.8
150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E

TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 30.0 hPa
Element monitored		:GEOPOTENTIAL HEIGHT IN metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.1	
SELECTION CRITERIA	: ≥3 levels with ≥10 observations and ≥ 100 m weighted RMS.	

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
23418	00	Z	250	65/ 57	22	0	38.5	75.9	85.1	5
28698	12	Z	70	55/ 73	12	1	74.8	139.2	158.0	5
31168	00	Z	200	56/ 138	11	0	64.0	120.2	136.2	5
42101	12	Z	200	30/ 76	14	0	86.2	-48.4	98.9	4
42182	00	Z	1000	29/ 77	1	26	0.0	-97.0	97.0	9
42182	12	Z	50	29/ 77	18	0	117.4	154.1	193.7	6
42314	00	Z	200	27/ 95	15	0	44.3	-129.4	136.8	6
42339	00	Z	150	26/ 73	14	2	37.0	-191.0	194.6	8
42339	12	Z	150	26/ 73	15	1	62.3	-73.7	96.5	4
42369	00	Z	1000	27/ 81	22	0	20.9	-54.0	58.0	9
42379	12	Z	500	27/ 83	20	0	43.1	49.6	65.8	5
42410	00	Z	200	26/ 92	16	2	61.6	-109.9	126.0	8
42410	12	Z	200	26/ 92	16	1	30.6	-162.7	165.6	8
42492	12	Z	200	26/ 85	21	2	81.7	-80.1	114.4	6
42647	00	Z	150	23/ 73	23	0	77.7	-83.6	114.1	6
42647	12	Z	70	23/ 73	15	4	113.0	226.1	252.7	8
42701	00	Z	100	23/ 85	15	0	120.6	-62.5	135.8	4
42701	12	Z	100	23/ 85	14	1	74.3	-126.1	146.4	5
42724	12	Z	150	24/ 91	10	0	56.6	-161.2	170.9	4
42809	00	Z	200	23/ 88	22	0	79.1	-78.6	111.5	8
42809	12	Z	100	23/ 88	19	3	91.9	-171.3	194.3	9
42867	00	Z	200	21/ 79	18	1	40.1	-153.8	158.9	9
42867	12	Z	200	21/ 79	18	0	52.0	-78.2	93.9	4
42971	12	Z	100	20/ 86	11	0	94.4	-114.8	148.7	4
43003	00	Z	150	19/ 73	15	4	53.8	-214.7	221.4	10
43003	12	Z	200	19/ 73	22	0	42.4	-93.0	102.2	10
43128	00	Z	150	17/ 78	16	0	52.2	-139.1	148.6	7
43128	12	Z	50	17/ 78	9	3	89.7	188.4	208.7	6
43150	00	Z	200	18/ 83	28	0	60.4	-122.0	136.1	9
43150	12	Z	100	18/ 83	20	1	109.0	-81.9	136.3	8
43185	12	Z	200	16/ 81	12	0	100.3	-31.7	105.2	4
43192	00	Z	100	15/ 74	13	7	58.3	-222.6	230.1	8
43192	12	Z	1000	15/ 74	26	0	14.5	-51.5	53.5	6
43333	00	Z	150	12/ 93	25	3	56.7	-135.8	147.2	7
43333	12	Z	100	12/ 93	22	1	76.3	-177.6	193.3	5
43346	00	Z	150	11/ 80	22	0	79.6	-66.3	103.6	4
43353	00	Z	1000	10/ 76	21	5	6.7	-87.9	88.1	7
43353	12	Z	1000	10/ 76	11	16	3.7	-95.0	95.1	4
43369	00	Z	200	8/ 73	20	0	82.4	-109.2	136.8	7
43371	00	Z	150	8/ 77	22	4	66.3	-167.9	180.5	9
43371	12	Z	150	8/ 77	22	0	93.2	-57.1	109.3	5
97180	00	Z	1000	-5/ 120	22	2	26.6	-50.2	56.8	12
97180	12	Z	1000	-5/ 120	29	0	12.9	-65.3	66.5	7
97560	00	Z	300	-1/ 136	11	0	76.8	-86.4	115.6	8

Figure 8. TEMP 500 hPa geopotential mean daily count. MARCH 2006
All hours
Global average number of observations in 24 hours = 1194

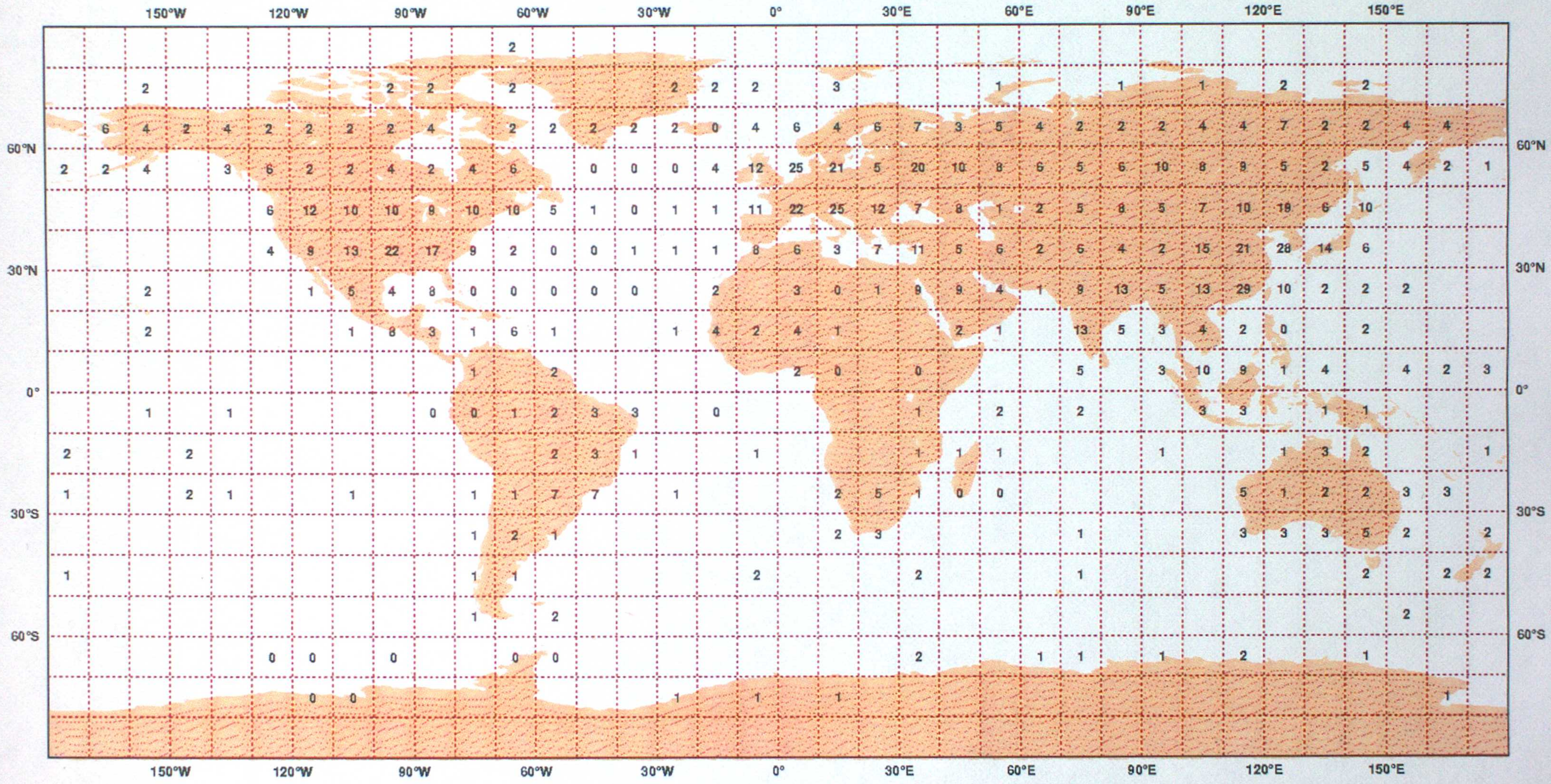

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

TABLE 6

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 100.0 hPa
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored		
	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.2	
SELECTION CRITERIA	: ≥ 10 observations and ≥ 15 m s^{-1} RMS vector wind.	
	ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN	

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
41780	12	V	200	25/ 67	19	0	100	-3.2	1.6	15.4	1
42182	00	V	200	29/ 77	28	0	100	-2.9	-13.3	17.7	3
42182	12	V	200	29/ 77	21	1	100	-6.4	-15.3	23.2	5
42339	00	V	100	26/ 73	10	0	100	-8.7	2.4	15.9	1
42339	12	V	100	26/ 73	12	0	100	-7.4	3.9	17.5	1
42410	00	V	150	26/ 92	15	0	100	-3.1	-1.3	16.0	1
42410	12	V	250	26/ 92	19	0	5	-3.5	1.2	19.7	1
42647	12	V	100	23/ 73	10	0	100	-10.6	-1.9	17.9	1
42701	00	V	200	23/ 85	22	0	100	-14.0	-3.9	23.5	4
42701	12	V	200	23/ 85	18	0	100	-13.6	-5.0	20.8	4
42809	00	V	100	23/ 88	19	0	100	-7.5	-2.4	16.0	1
42874	12	V	250	21/ 82	12	1	100	16.1	-2.5	21.3	3
60566	12	V	150	32/ 4	10	0	100	-11.4	-10.2	30.7	4
60571	00	V	150	31/ -2	26	0	3	-3.4	0.2	20.9	1
60590	12	V	400	31/ 3	17	0	100	-14.6	-2.8	20.6	3
60620	12	V	200	28/ 0	12	0	100	-21.8	-11.9	29.5	4
60656	12	V	250	28/ -8	13	0	53	-14.4	-1.6	23.0	3
61024	00	V	150	17/ 8	24	0	4	-3.7	-0.1	23.4	1
61687	12	V	200	14/ -14	7	0	14	-8.1	-5.6	17.8	2
62306	00	V	150	31/ 27	13	0	100	3.5	-4.0	22.5	2
62337	12	V	150	31/ 34	25	0	100	-6.8	1.6	16.6	2
62378	12	V	200	30/ 31	20	3	100	-6.9	3.0	18.8	2
72376	00	V	250	37/-108	28	0	100	-8.8	-4.1	16.2	1
72376	12	V	250	37/-108	26	0	100	-9.2	-3.8	18.7	2
97180	00	V	150	-5/ 120	24	0	100	8.4	-3.3	16.7	1
97180	12	V	250	-5/ 120	28	0	100	5.1	-3.9	15.5	1

Figure 9. TEMP/PILOT 300 hPa wind mean daily count. MARCH 2006
All hours
Global average number of observations in 24 hours = 1347

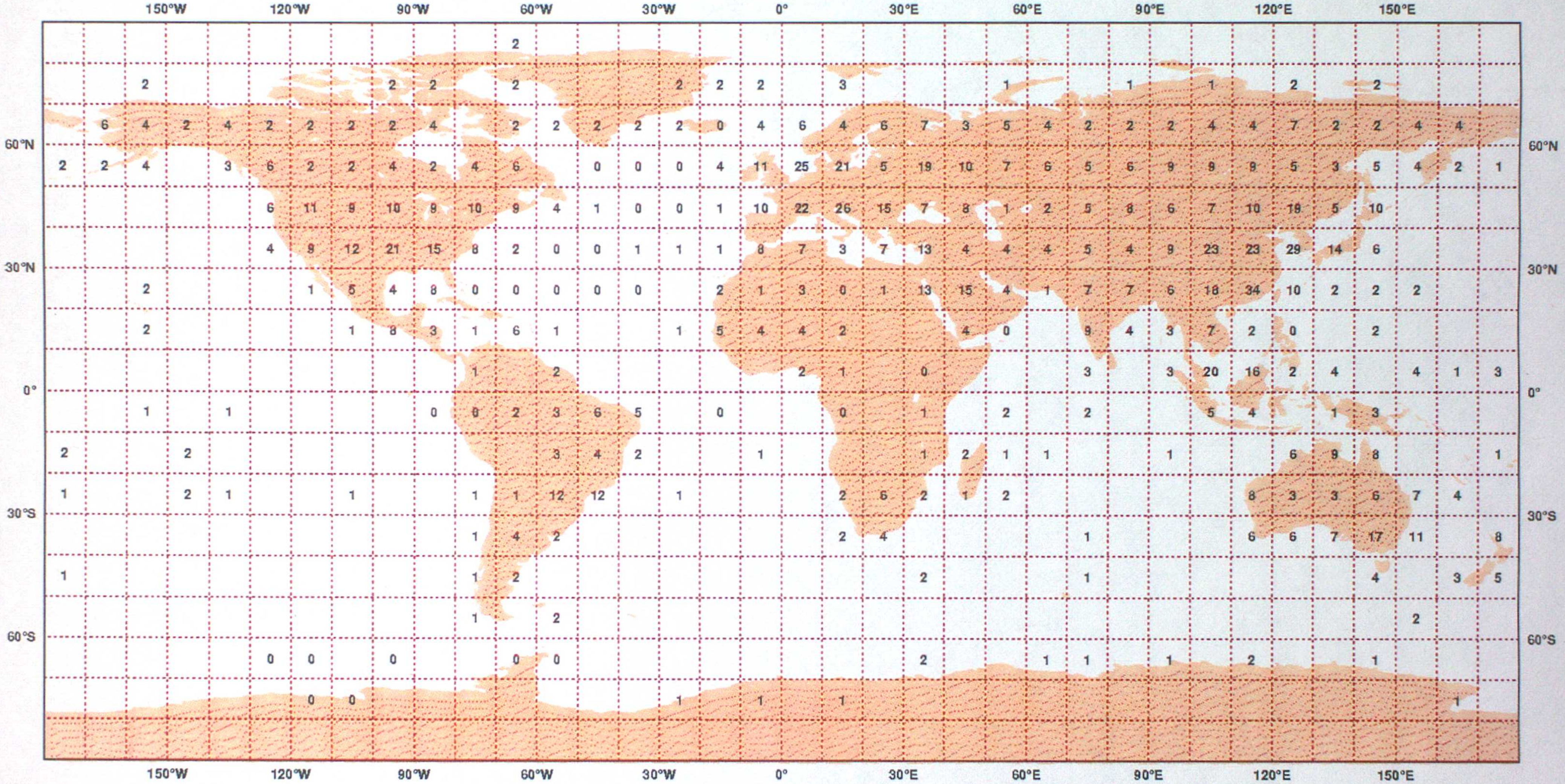

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
2
2 2 2 2 2 2 2 3 1 1 1 2 2
6 4 2 4 2 2 2 2 4 2 2 2 2 2 0 4 6 4 6 7 3 5 4 2 2 2 4 4 7 2 2 4 4
2 2 4 3 6 2 2 4 2 4 6 0 0 0 4 11 25 21 5 19 10 7 6 5 6 9 9 9 5 3 5 4 2 1
6 11 9 10 9 10 9 4 1 0 0 1 10 22 26 15 7 8 1 2 5 8 6 7 10 19 5 10
4 9 12 21 15 8 2 0 0 1 1 1 8 7 3 7 13 4 4 4 5 4 9 23 23 29 14 6
2 1 5 4 8 0 0 0 0 0 2 1 3 0 1 13 15 4 1 7 7 6 18 34 10 2 2 2
2 1 8 3 1 6 1 1 5 4 4 2 4 0 9 4 3 7 2 0 2
1 2 2 1 0 3 3 20 16 2 4 4 1 3
1 1 0 0 2 3 6 5 0 0 1 2 2 5 4 1 3
2 2 3 4 2 1 1 2 1 1 1 6 9 8 1
1 2 1 1 1 1 12 12 1 2 6 2 1 2 8 3 3 6 7 4
1 4 2 2 4 1 6 6 7 17 11 8
1 1 2 2 1 4 3 5
1 2 2
0 0 0 0 0 2 1 1 1 2 1
0 0 1 1 1 1

TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 500.0 - 150.0 hPa

Element monitored :WIND DIRECTION in degrees

Parameters monitored

:NUM OBS :Average number of observations at all levels.

:BIAS :Mean difference of observations from background values from all levels.

:MAX SPREAD :(For observation - background values) Maximum absolute difference of SD at any level from SD at all levels

:SD :SD of difference of observations from background values at all levels.

SELECTION CRITERIA :NUM OBS ≥ 5, and
ABSOLUTE BIAS ≥ 10°, with
SD < 30°, and
MAX SPREAD < 10°

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
08594	12	DD	17/ -23	22	12.4	4.6	9.9
33791	12	DD	48/ 33	25	-13.8	1.1	7.4
43150	12	DD	18/ 83	25	-10.1	3.1	15.1
92035	00	DD	-9/ 147	6	-27.0	5.7	24.8
97072	00	DD	-1/ 120	19	-13.1	4.8	18.4

MONITORING OF SATELLITE WINDS

MONITORING CENTRE: EXETER

MONTH: Mar 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from GOES-9, GOES-10, GOES-12, METEOSAT-5, METEOSAT-7

Standard of comparison :Background field from UKMO global model.

Selection Criteria :number of observations > 10.

Data Extracted :Layer 701 - 1000 hPa
401 - 700 hPa
101 - 400 hPa

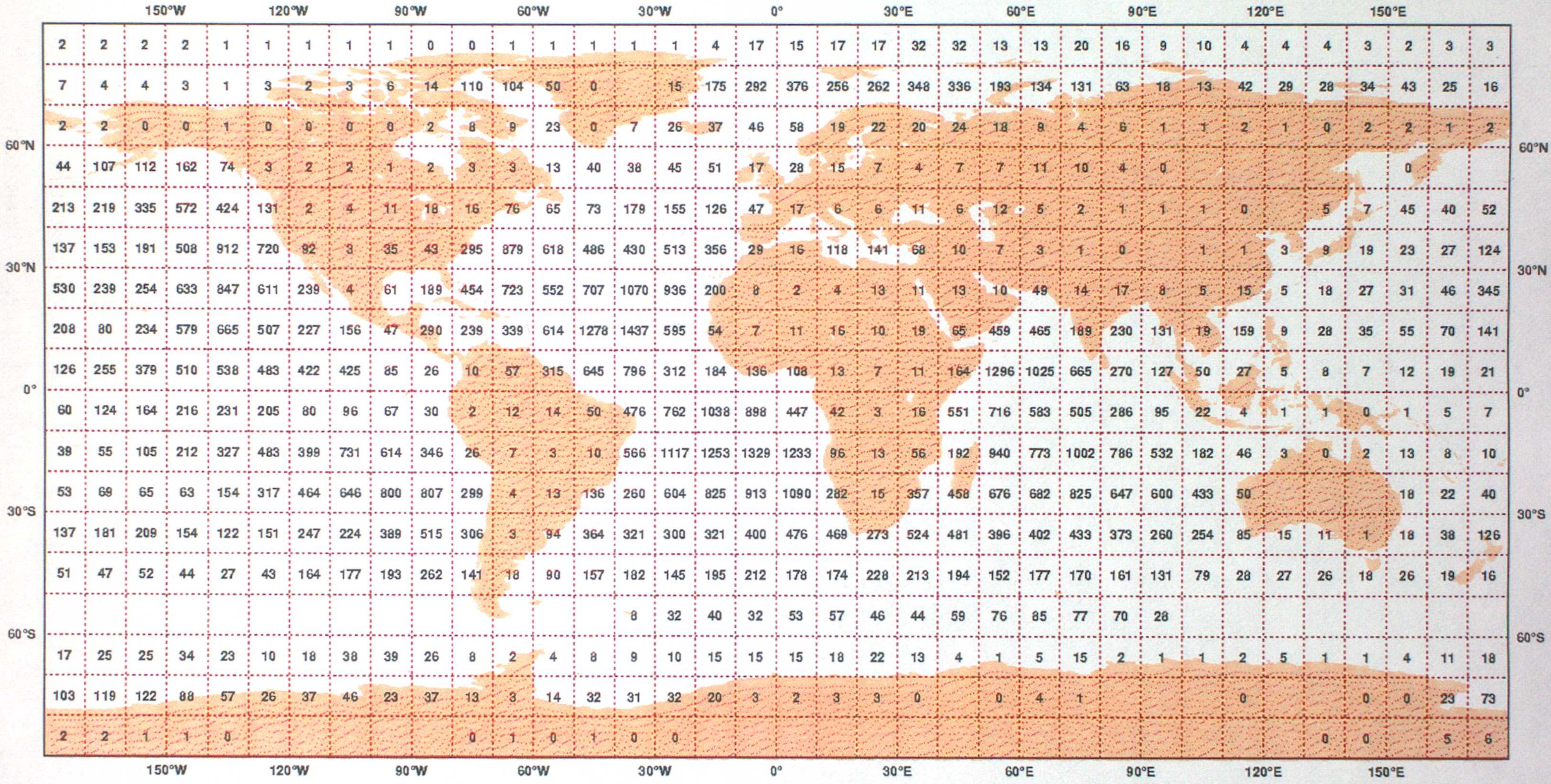
:Mean wind

:Mean observation minus background vector wind differences

:Mean observation minus background speed differences

:RMS of observation minus background vector differences

Figure 10. SATOB 701 - 1000 hPa mean daily count. MARCH 2006
Global average number of observations in 24 hours = 91915



2	2	2	2	1	1	1	1	1	0	0	1	1	1	1	1	4	17	15	17	17	32	32	13	13	20	16	9	10	4	4	4	3	2	3	3
7	4	4	3	1	3	2	3	6	14	110	104	50	0		15	175	292	376	256	262	348	336	193	134	131	63	18	13	42	29	28	34	43	25	16
2	2	0	0	1	0	0	0	0	2	8	9	23	0	7	26	37	46	58	19	22	20	24	18	9	4	6	1	1	2	1	0	2	2	1	2
44	107	112	162	74	3	2	2	1	2	3	3	13	40	38	45	51	17	28	15	7	4	7	7	11	10	4	0						0		
213	219	335	572	424	131	2	4	11	18	16	76	65	73	179	155	126	47	17	6	6	11	6	12	5	2	1	1	1	0		5	7	45	40	52
137	153	191	508	912	720	92	3	35	43	295	879	618	486	430	513	356	29	16	118	141	68	10	7	3	1	0		1	1	3	9	19	23	27	124
530	239	254	633	847	611	239	4	61	189	454	723	552	707	1070	936	200	8	2	4	13	11	13	10	49	14	17	8	5	15	5	18	27	31	46	345
208	80	234	579	665	507	227	156	47	290	239	339	614	1278	1437	595	54	7	11	16	10	19	65	459	465	189	230	131	19	159	9	28	35	55	70	141
126	255	379	510	538	483	422	425	85	26	10	57	315	645	796	312	184	136	108	13	7	11	164	1296	1025	665	270	127	50	27	5	8	7	12	19	21
60	124	164	216	231	205	80	96	67	30	2	12	14	50	476	762	1038	898	447	42	3	16	551	716	583	505	286	95	22	4	1	1	0	1	5	7
39	55	105	212	327	483	399	731	614	346	26	7	3	10	566	1117	1253	1329	1233	96	13	56	192	940	773	1002	786	532	182	46	3	0	2	13	8	10
53	69	65	63	154	317	464	646	800	807	299	4	13	136	260	604	825	913	1090	282	15	357	458	676	682	825	647	600	433	50				18	22	40
137	181	209	154	122	151	247	224	389	515	306	3	94	364	321	300	321	400	476	469	273	524	481	396	402	433	373	260	254	85	15	11	1	18	38	126
51	47	52	44	27	43	164	177	193	262	141	18	90	157	182	145	195	212	178	174	228	213	194	152	177	170	161	131	79	28	27	26	18	26	19	16
														8	32	40	32	53	57	46	44	59	76	85	77	70	28								
17	25	25	34	23	10	18	38	39	26	8	2	4	8	9	10	15	15	15	18	22	13	4	1	5	15	2	1	1	2	5	1	1	4	11	18
103	119	122	88	57	26	37	46	23	37	13	3	14	32	31	32	20	3	2	3	3	0		0	4	1				0			0	0	23	73
2	2	1	1	0						0	1	0	1	0	0																0	0		5	6

Figure 11. SATOB 701 - 1000 hPa vector mean wind. MARCH 2006
All observations
Arrows are plotted where greater than 10 obs are present

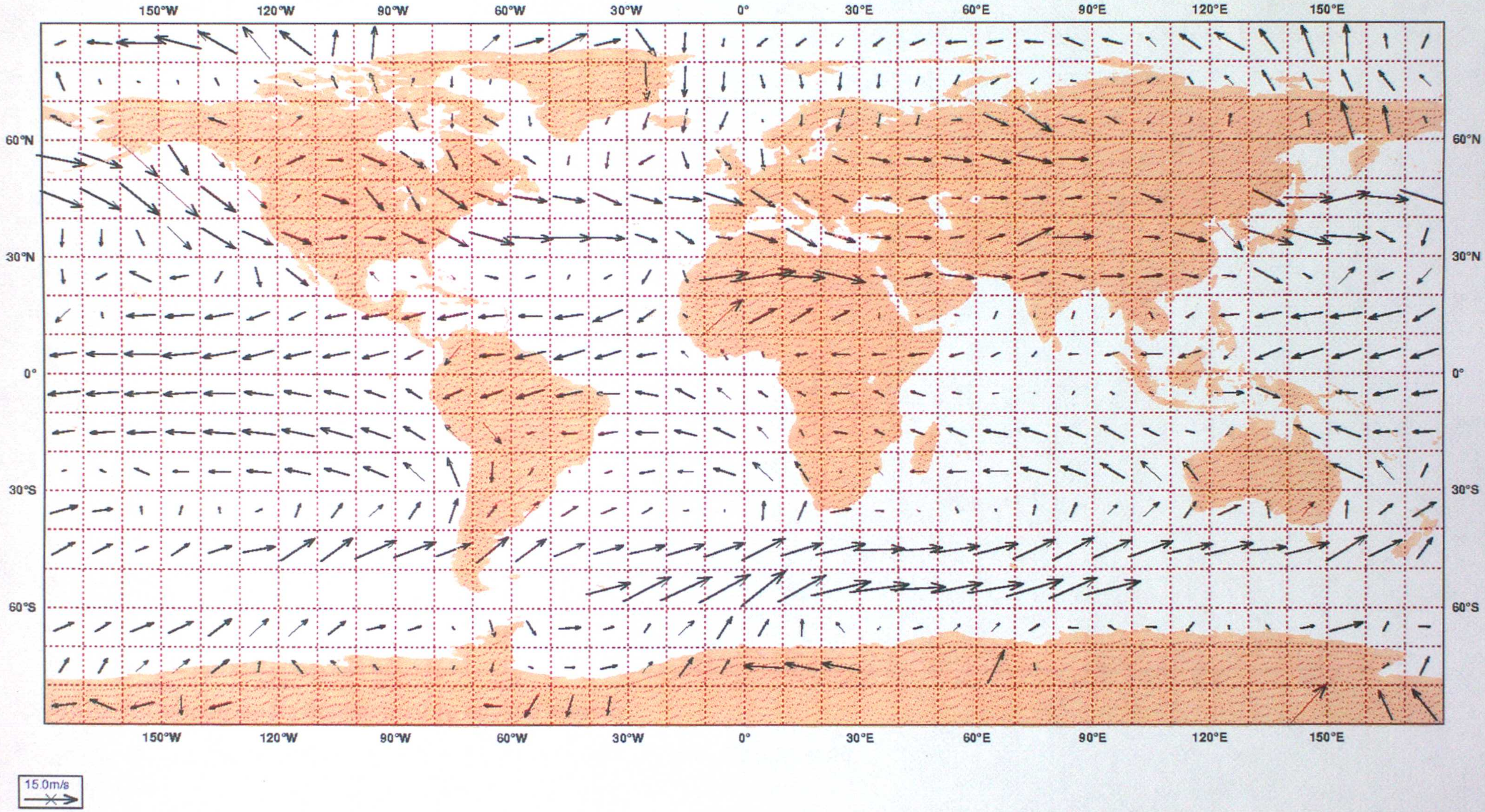

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 12. SATOB 701 - 1000 hPa mean vector wind differences. MARCH 2006
All observations
Arrows are plotted where greater than 10 obs are present

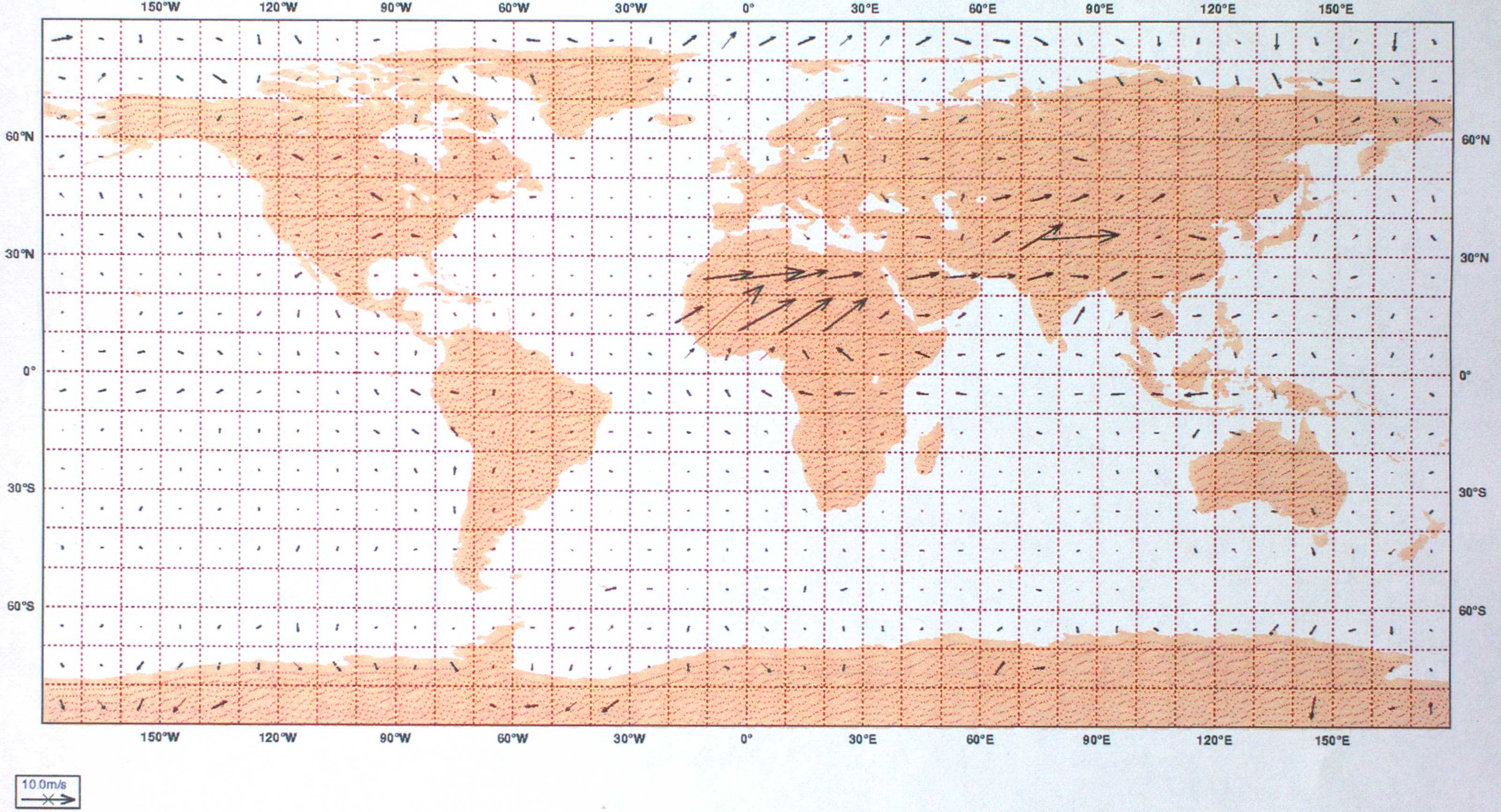
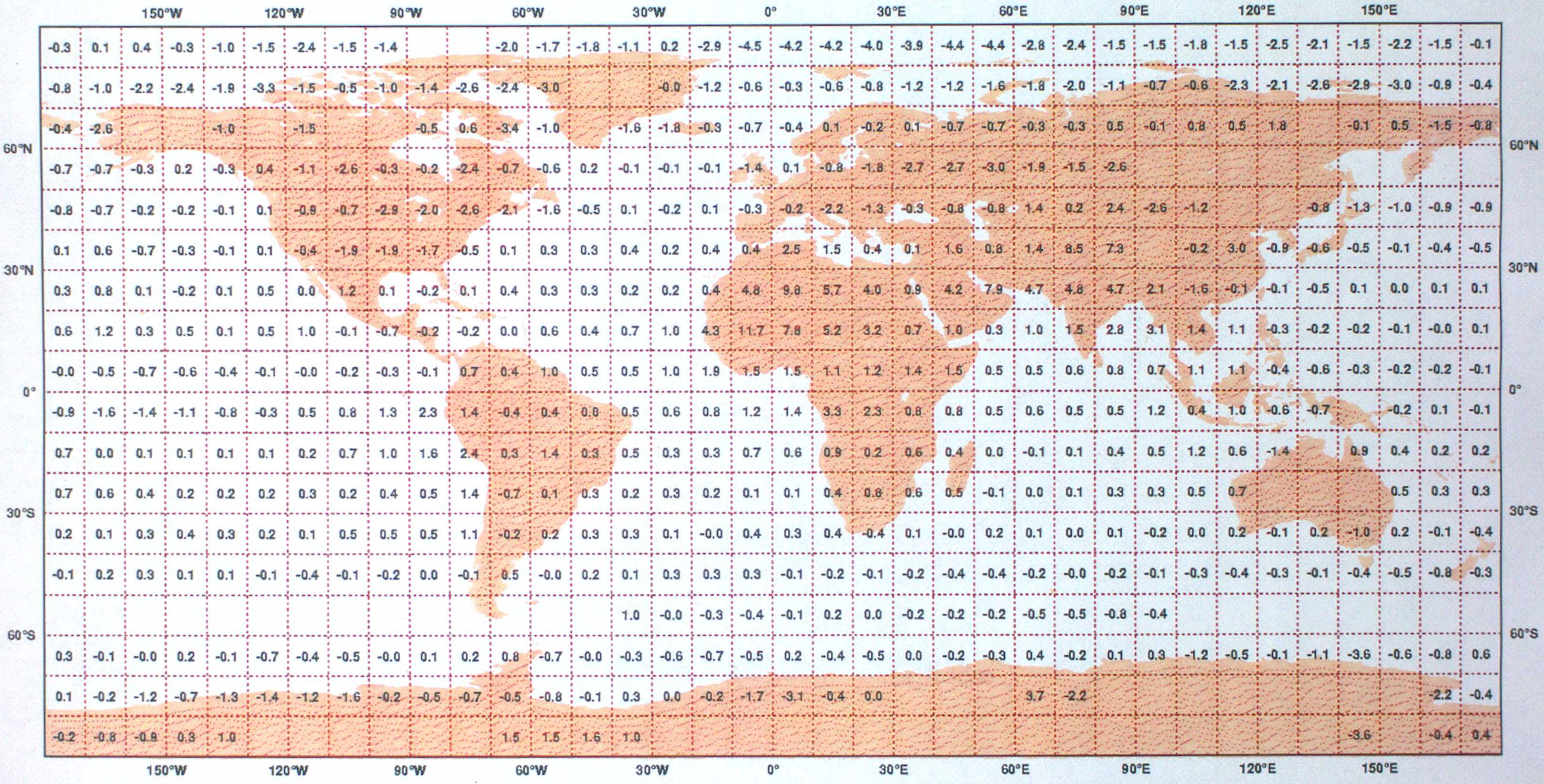
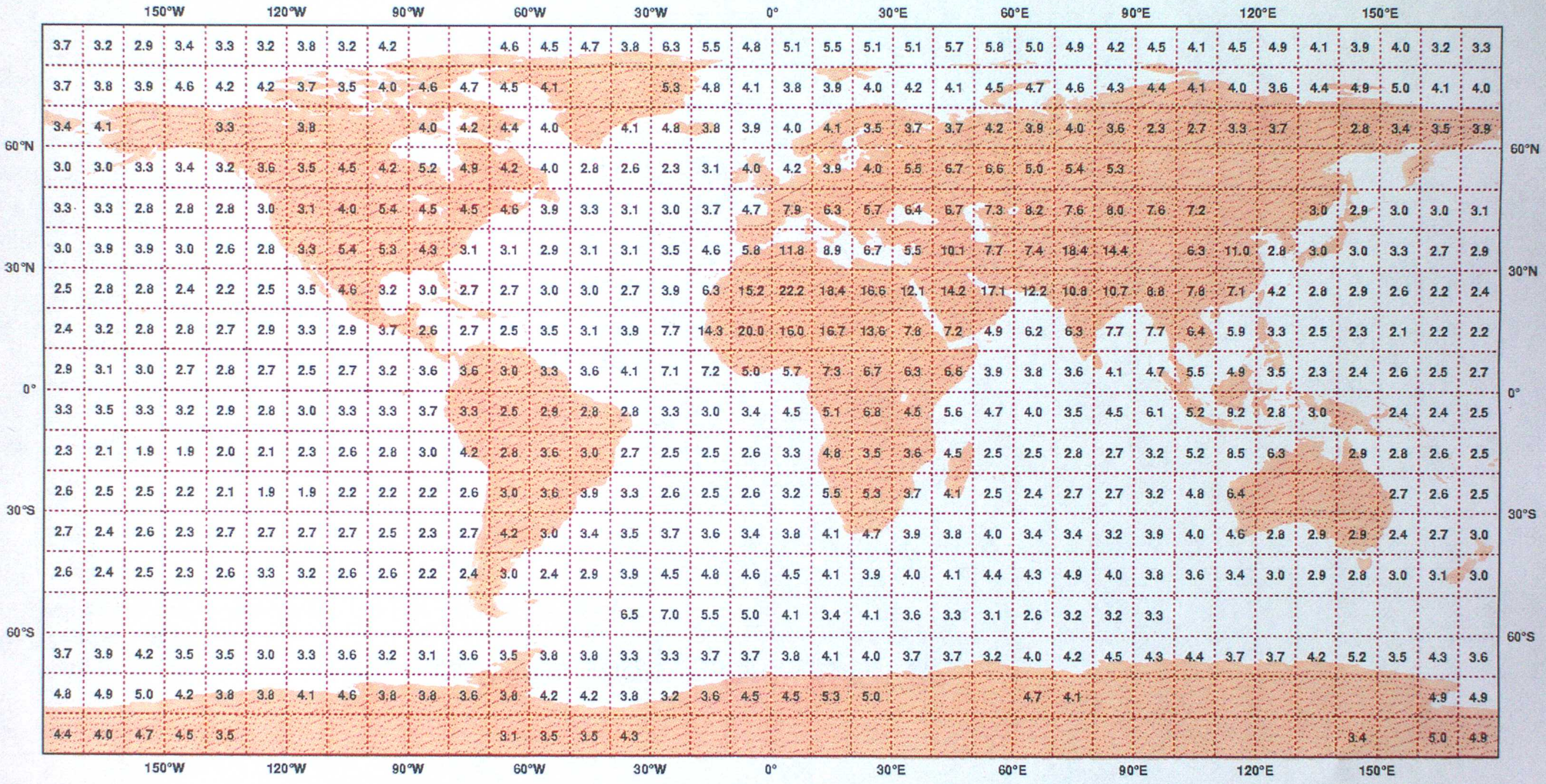

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 13. SATOB 701 - 1000 hPa mean O-B speed differences (ms-1). MARCH 2006
All observations
Values are plotted where greater than 10 obs are present



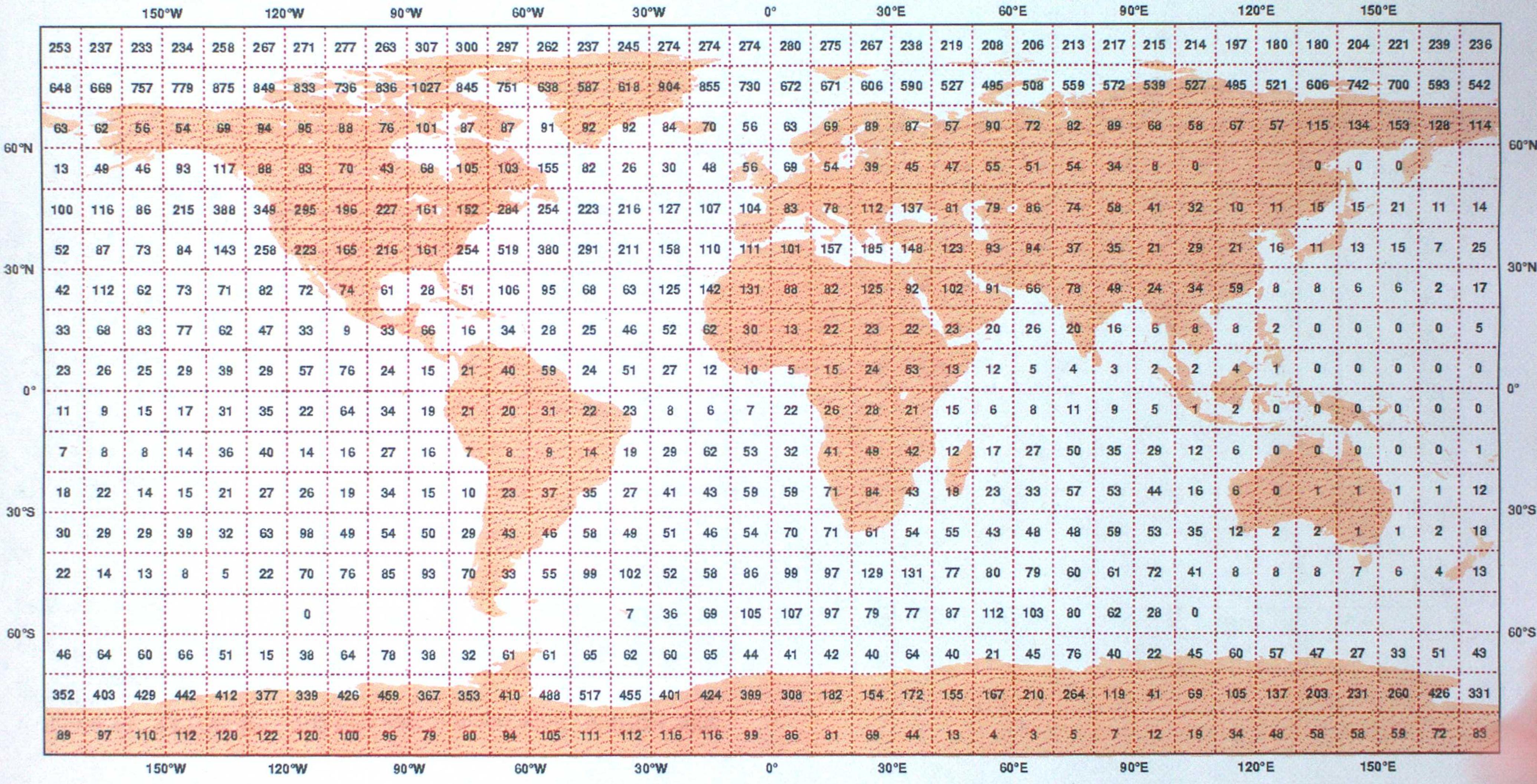
-0.3	0.1	0.4	-0.3	-1.0	-1.5	-2.4	-1.5	-1.4			-2.0	-1.7	-1.8	-1.1	0.2	-2.9	-4.5	-4.2	-4.2	-4.0	-3.9	-4.4	-4.4	-2.8	-2.4	-1.5	-1.5	-1.8	-1.5	-2.5	-2.1	-1.5	-2.2	-1.5	-0.1
-0.8	-1.0	-2.2	-2.4	-1.9	-3.3	-1.5	-0.5	-1.0	-1.4	-2.6	-2.4	-3.0			-0.0	-1.2	-0.6	-0.3	-0.6	-0.8	-1.2	-1.2	-1.6	-1.8	-2.0	-1.1	-0.7	-0.6	-2.3	-2.1	-2.6	-2.9	-3.0	-0.9	-0.4
-0.4	-2.6			-1.0		-1.5			-0.5	0.6	-3.4	-1.0		-1.6	-1.8	-0.3	-0.7	-0.4	0.1	-0.2	0.1	-0.7	-0.7	-0.3	-0.3	0.5	-0.1	0.8	0.5	1.8		-0.1	0.5	-1.5	-0.8
-0.7	-0.7	-0.3	0.2	-0.3	0.4	-1.1	-2.6	-0.3	-0.2	-2.4	-0.7	-0.6	0.2	-0.1	-0.1	-0.1	-1.4	0.1	-0.8	-1.8	-2.7	-2.7	-3.0	-1.9	-1.5	-2.6									
-0.8	-0.7	-0.2	-0.2	-0.1	0.1	-0.9	-0.7	-2.9	-2.0	-2.6	-2.1	-1.6	-0.5	0.1	-0.2	0.1	-0.3	-0.2	-2.2	-1.3	-0.3	-0.8	-0.8	1.4	0.2	2.4	-2.6	-1.2			-0.8	-1.3	-1.0	-0.9	-0.9
0.1	0.6	-0.7	-0.3	-0.1	0.1	-0.4	-1.9	-1.9	-1.7	-0.5	0.1	0.3	0.3	0.4	0.2	0.4	0.4	2.5	1.5	0.4	0.1	1.6	0.8	1.4	8.5	7.3		-0.2	3.0	-0.9	-0.6	-0.5	-0.1	-0.4	-0.5
0.3	0.8	0.1	-0.2	0.1	0.5	0.0	1.2	0.1	-0.2	0.1	0.4	0.3	0.3	0.2	0.2	0.4	4.8	9.8	5.7	4.0	0.9	4.2	7.9	4.7	4.8	4.7	2.1	-1.6	-0.1	-0.1	-0.5	0.1	0.0	0.1	0.1
0.6	1.2	0.3	0.5	0.1	0.5	1.0	-0.1	-0.7	-0.2	-0.2	0.0	0.6	0.4	0.7	1.0	4.3	11.7	7.8	5.2	3.2	0.7	1.0	0.3	1.0	1.5	2.8	3.1	1.4	1.1	-0.3	-0.2	-0.2	-0.1	-0.0	0.1
-0.0	-0.5	-0.7	-0.6	-0.4	-0.1	-0.0	-0.2	-0.3	-0.1	0.7	0.4	1.0	0.5	0.5	1.0	1.9	1.5	1.5	1.1	1.2	1.4	1.5	0.5	0.5	0.6	0.8	0.7	1.1	1.1	-0.4	-0.6	-0.3	-0.2	-0.2	-0.1
-0.9	-1.6	-1.4	-1.1	-0.8	-0.3	0.5	0.8	1.3	2.3	1.4	-0.4	0.4	0.0	0.5	0.6	0.8	1.2	1.4	3.3	2.3	0.8	0.8	0.5	0.6	0.5	0.5	1.2	0.4	1.0	-0.6	-0.7		-0.2	0.1	-0.1
0.7	0.0	0.1	0.1	0.1	0.1	0.2	0.7	1.0	1.6	2.4	0.3	1.4	0.3	0.5	0.3	0.3	0.7	0.6	0.9	0.2	0.6	0.4	0.0	-0.1	0.1	0.4	0.5	1.2	0.6	-1.4		0.9	0.4	0.2	0.2
0.7	0.6	0.4	0.2	0.2	0.2	0.3	0.2	0.4	0.5	1.4	-0.7	0.1	0.3	0.2	0.3	0.2	0.1	0.1	0.4	0.8	0.6	0.5	-0.1	0.0	0.1	0.3	0.3	0.5	0.7				0.5	0.3	0.3
0.2	0.1	0.3	0.4	0.3	0.2	0.1	0.5	0.5	0.5	1.1	-0.2	0.2	0.3	0.3	0.1	-0.0	0.4	0.3	0.4	-0.4	0.1	-0.0	0.2	0.1	0.0	0.1	-0.2	0.0	0.2	-0.1	0.2	-1.0	0.2	-0.1	-0.4
-0.1	0.2	0.3	0.1	0.1	-0.1	-0.4	-0.1	-0.2	0.0	-0.1	0.5	-0.0	0.2	0.1	0.3	0.3	0.3	-0.1	-0.2	-0.1	-0.2	-0.4	-0.4	-0.2	-0.0	-0.2	-0.1	-0.3	-0.4	-0.3	-0.1	-0.4	-0.5	-0.8	-0.3
														1.0	-0.0	-0.3	-0.4	-0.1	0.2	0.0	-0.2	-0.2	-0.2	-0.5	-0.5	-0.8	-0.4								
0.3	-0.1	-0.0	0.2	-0.1	-0.7	-0.4	-0.5	-0.0	0.1	0.2	0.8	-0.7	-0.0	-0.3	-0.6	-0.7	-0.5	0.2	-0.4	-0.5	0.0	-0.2	-0.3	0.4	-0.2	0.1	0.3	-1.2	-0.5	-0.1	-1.1	-3.6	-0.6	-0.8	0.6
0.1	-0.2	-1.2	-0.7	-1.3	-1.4	-1.2	-1.6	-0.2	-0.5	-0.7	-0.5	-0.8	-0.1	0.3	0.0	-0.2	-1.7	-3.1	-0.4	0.0				3.7	-2.2									-2.2	-0.4
-0.2	-0.8	-0.9	0.3	1.0							1.5	1.5	1.6	1.0																		-3.6		-0.4	0.4

Figure 14. SATOB 701 - 1000 hPa mean RMS O-B vector differences (ms-1). MARCH 2006
All observations
Values are plotted where greater than 10 obs are present



3.7	3.2	2.9	3.4	3.3	3.2	3.8	3.2	4.2			4.6	4.5	4.7	3.8	6.3	5.5	4.8	5.1	5.5	5.1	5.1	5.7	5.8	5.0	4.9	4.2	4.5	4.1	4.5	4.9	4.1	3.9	4.0	3.2	3.3
3.7	3.8	3.9	4.6	4.2	4.2	3.7	3.5	4.0	4.6	4.7	4.5	4.1			5.3	4.8	4.1	3.8	3.9	4.0	4.2	4.1	4.5	4.7	4.6	4.3	4.4	4.1	4.0	3.6	4.4	4.9	5.0	4.1	4.0
3.4	4.1			3.3		3.8			4.0	4.2	4.4	4.0		4.1	4.8	3.8	3.9	4.0	4.1	3.5	3.7	3.7	4.2	3.9	4.0	3.6	2.3	2.7	3.3	3.7		2.8	3.4	3.5	3.9
3.0	3.0	3.3	3.4	3.2	3.6	3.5	4.5	4.2	5.2	4.9	4.2	4.0	2.8	2.6	2.3	3.1	4.0	4.2	3.9	4.0	5.5	6.7	6.6	5.0	5.4	5.3									
3.3	3.3	2.8	2.8	2.8	3.0	3.1	4.0	5.4	4.5	4.5	4.6	3.9	3.3	3.1	3.0	3.7	4.7	7.9	6.3	5.7	6.4	6.7	7.3	8.2	7.6	8.0	7.6	7.2			3.0	2.9	3.0	3.0	3.1
3.0	3.9	3.9	3.0	2.6	2.8	3.3	5.4	5.3	4.3	3.1	3.1	2.9	3.1	3.1	3.5	4.6	5.8	11.8	8.9	6.7	5.5	10.1	7.7	7.4	18.4	14.4		6.3	11.0	2.8	3.0	3.0	3.3	2.7	2.9
2.5	2.8	2.8	2.4	2.2	2.5	3.5	4.6	3.2	3.0	2.7	2.7	3.0	3.0	2.7	3.9	6.3	15.2	22.2	18.4	16.6	12.1	14.2	17.1	12.2	10.8	10.7	8.8	7.8	7.1	4.2	2.8	2.9	2.6	2.2	2.4
2.4	3.2	2.8	2.8	2.7	2.9	3.3	2.9	3.7	2.6	2.7	2.5	3.5	3.1	3.9	7.7	14.3	20.0	16.0	16.7	13.6	7.8	7.2	4.9	6.2	6.3	7.7	7.7	6.4	5.9	3.3	2.5	2.3	2.1	2.2	2.2
2.9	3.1	3.0	2.7	2.8	2.7	2.5	2.7	3.2	3.6	3.6	3.0	3.3	3.6	4.1	7.1	7.2	5.0	5.7	7.3	6.7	6.3	6.6	3.9	3.8	3.6	4.1	4.7	5.5	4.9	3.5	2.3	2.4	2.6	2.5	2.7
3.3	3.5	3.3	3.2	2.9	2.8	3.0	3.3	3.3	3.7	3.3	2.5	2.9	2.8	2.8	3.3	3.0	3.4	4.5	5.1	6.8	4.5	5.6	4.7	4.0	3.5	4.5	6.1	5.2	9.2	2.8	3.0		2.4	2.4	2.5
2.3	2.1	1.9	1.9	2.0	2.1	2.3	2.6	2.8	3.0	4.2	2.8	3.6	3.0	2.7	2.5	2.5	2.6	3.3	4.8	3.5	3.6	4.5	2.5	2.5	2.8	2.7	3.2	5.2	8.5	6.3		2.9	2.8	2.6	2.5
2.6	2.5	2.5	2.2	2.1	1.9	1.9	2.2	2.2	2.2	2.6	3.0	3.6	3.9	3.3	2.6	2.5	2.6	3.2	5.5	5.3	3.7	4.1	2.5	2.4	2.7	2.7	3.2	4.8	6.4				2.7	2.6	2.5
2.7	2.4	2.6	2.3	2.7	2.7	2.7	2.7	2.5	2.3	2.7	4.2	3.0	3.4	3.5	3.7	3.6	3.4	3.8	4.1	4.7	3.9	3.8	4.0	3.4	3.4	3.2	3.9	4.0	4.6	2.8	2.9	2.9	2.4	2.7	3.0
2.6	2.4	2.5	2.3	2.6	3.3	3.2	2.6	2.6	2.2	2.4	3.0	2.4	2.9	3.9	4.5	4.8	4.6	4.5	4.1	3.9	4.0	4.1	4.4	4.3	4.9	4.0	3.8	3.6	3.4	3.0	2.9	2.8	3.0	3.1	3.0
														6.5	7.0	5.5	5.0	4.1	3.4	4.1	3.6	3.3	3.1	2.6	3.2	3.2	3.3								
3.7	3.9	4.2	3.5	3.5	3.0	3.3	3.6	3.2	3.1	3.6	3.5	3.8	3.8	3.3	3.3	3.7	3.7	3.8	4.1	4.0	3.7	3.7	3.2	4.0	4.2	4.5	4.3	4.4	3.7	3.7	4.2	5.2	3.5	4.3	3.6
4.8	4.9	5.0	4.2	3.8	3.8	4.1	4.6	3.8	3.8	3.6	3.8	4.2	4.2	3.8	3.2	3.6	4.5	4.5	5.3	5.0				4.7	4.1									4.9	4.9
4.4	4.0	4.7	4.5	3.5							3.1	3.5	3.5	4.3																		3.4		5.0	4.9

Figure 15. SATOB 401 - 700 hPa mean daily count. MARCH 2006
Global average number of observations in 24 hours = 73401



253	237	233	234	258	267	271	277	263	307	300	297	262	237	245	274	274	274	280	275	267	238	219	208	206	213	217	215	214	197	180	180	204	221	239	236
648	669	757	779	875	849	833	736	836	1027	845	751	638	587	618	904	855	730	672	671	606	590	527	495	508	559	572	539	527	495	521	606	742	700	593	542
63	62	56	54	69	94	95	88	76	101	87	87	91	92	92	84	70	56	63	69	89	87	57	90	72	82	89	68	58	67	57	115	134	153	128	114
13	49	46	93	117	88	83	70	43	68	105	103	155	82	26	30	48	56	69	54	39	45	47	55	51	54	34	8	0			0	0	0		
100	116	86	215	388	349	295	196	227	161	152	284	254	223	216	127	107	104	83	78	112	137	81	79	86	74	58	41	32	10	11	15	15	21	11	14
52	87	73	84	143	258	223	165	216	161	254	519	380	291	211	158	110	111	101	157	185	148	123	93	94	37	35	21	29	21	16	11	13	15	7	25
42	112	62	73	71	82	72	74	61	28	51	106	95	68	63	125	142	131	88	82	125	92	102	91	66	78	49	24	34	59	8	8	6	6	2	17
33	68	83	77	62	47	33	9	33	66	16	34	28	25	46	52	62	30	13	22	23	22	23	20	26	20	16	6	8	8	2	0	0	0	0	5
23	26	25	29	39	29	57	76	24	15	21	40	59	24	51	27	12	10	5	15	24	53	13	12	5	4	3	2	2	4	1	0	0	0	0	0
11	9	15	17	31	35	22	64	34	19	21	20	31	22	23	8	6	7	22	26	28	21	15	6	8	11	9	5	1	2	0	0	0	0	0	0
7	8	8	14	36	40	14	16	27	16	7	8	9	14	19	29	62	53	32	41	49	42	12	17	27	50	35	29	12	6	0	0	0	0	0	1
18	22	14	15	21	27	26	19	34	15	10	23	37	35	27	41	43	59	59	71	84	43	18	23	33	57	53	44	16	6	0	1	1	1	1	12
30	29	29	39	32	63	98	49	54	50	29	43	46	58	49	51	46	54	70	71	61	54	55	43	48	48	59	53	35	12	2	2	1	1	2	18
22	14	13	8	5	22	70	76	85	93	70	33	55	99	102	52	58	86	99	97	129	131	77	80	79	60	61	72	41	8	8	8	7	6	4	13
						0								7	36	69	105	107	97	79	77	87	112	103	80	62	28	0							
46	64	60	66	51	15	38	64	78	38	32	61	61	65	62	60	65	44	41	42	40	64	40	21	45	76	40	22	45	60	57	47	27	33	51	43
352	403	429	442	412	377	339	426	459	367	353	410	488	517	455	401	424	389	308	182	154	172	155	167	210	264	119	41	69	105	137	203	231	260	426	331
89	97	110	112	120	122	120	100	96	79	80	94	105	111	112	116	116	99	86	81	69	44	13	4	3	5	7	12	19	34	48	58	58	59	72	83

Figure 16. SATOB 401 - 700 hPa vector mean wind. MARCH 2006
All observations
Arrows are plotted where greater than 10 obs are present

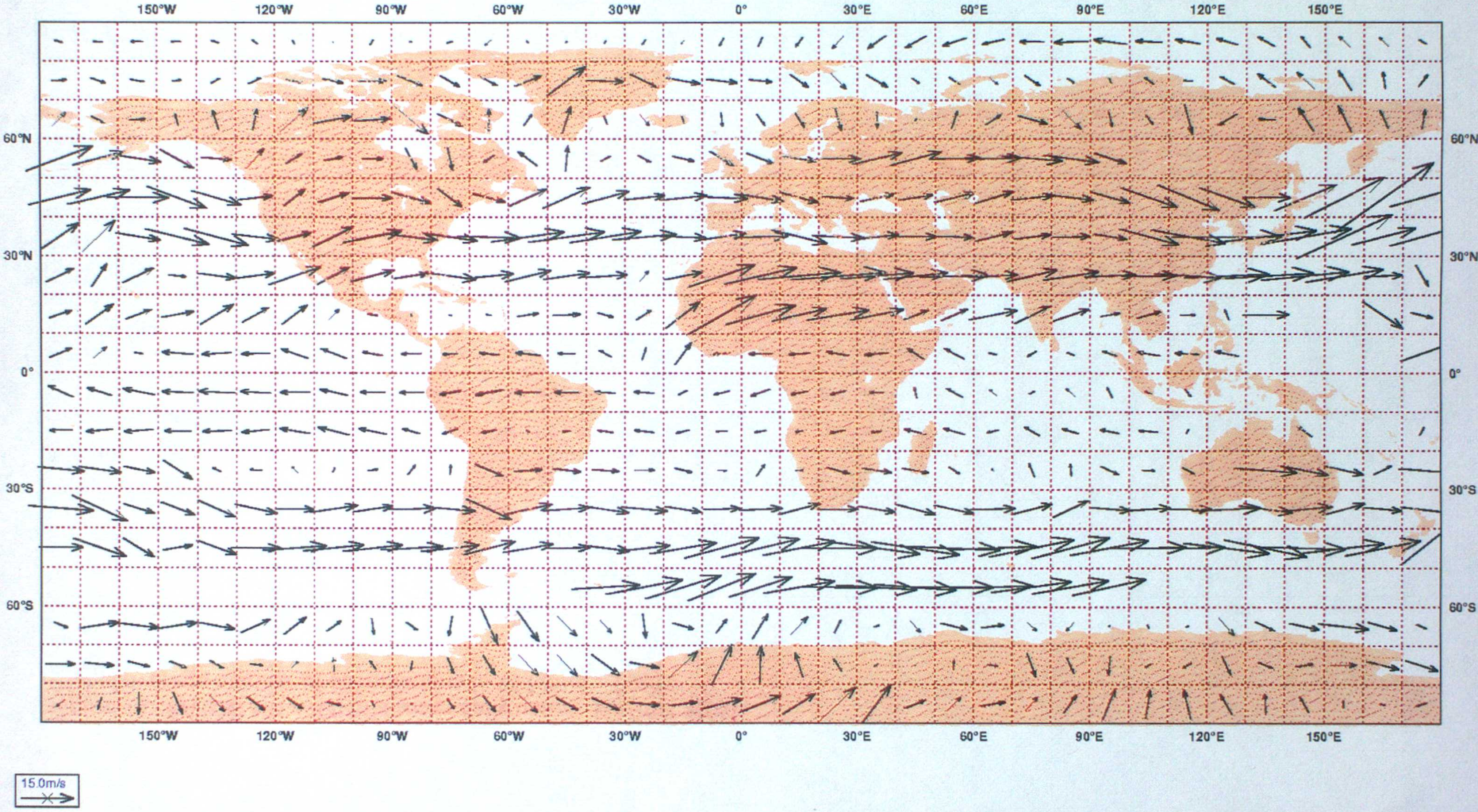

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 17. SATOB 401 - 700 hPa mean vector wind differences. MARCH 2006
All observations
Arrows are plotted where greater than 10 obs are present

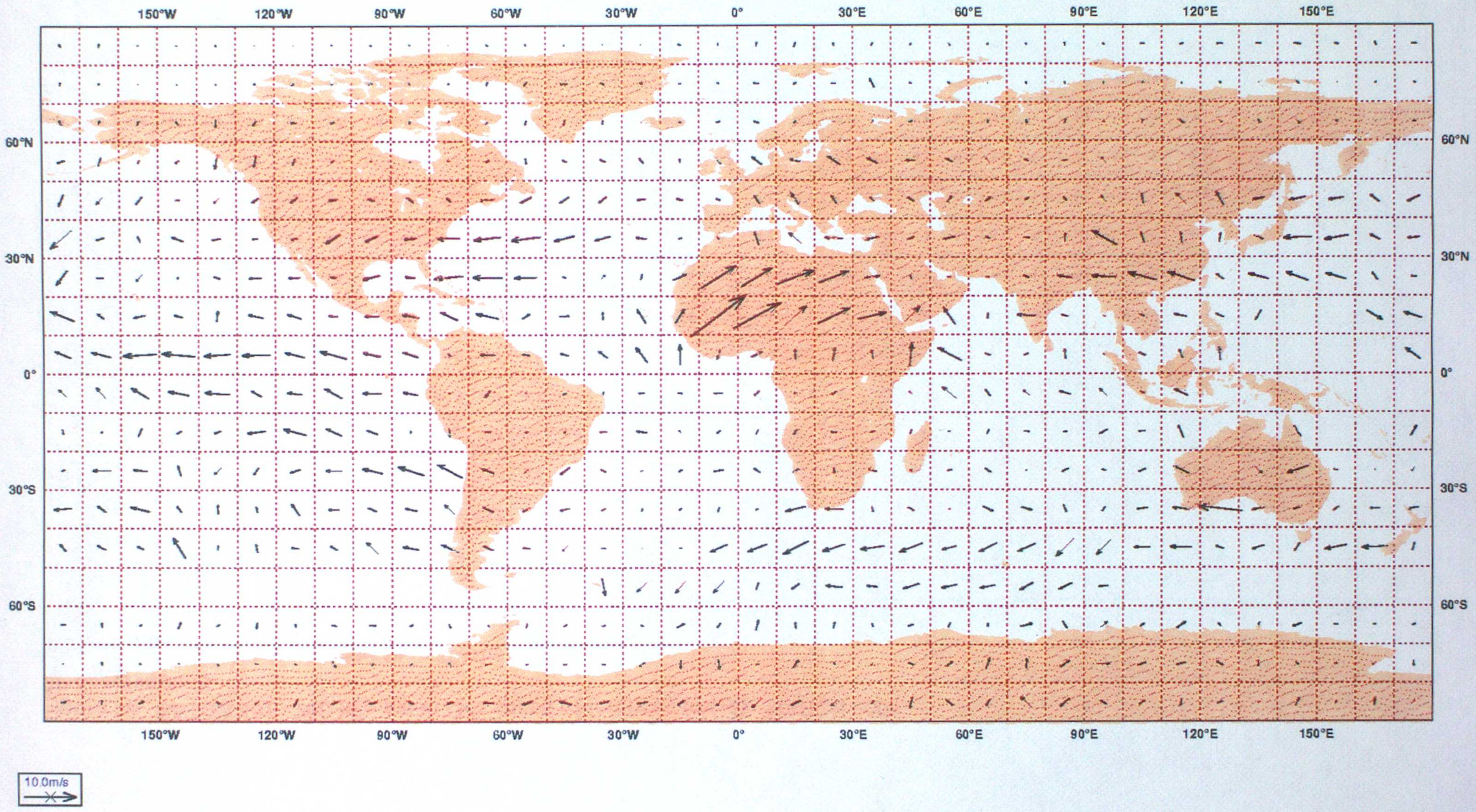
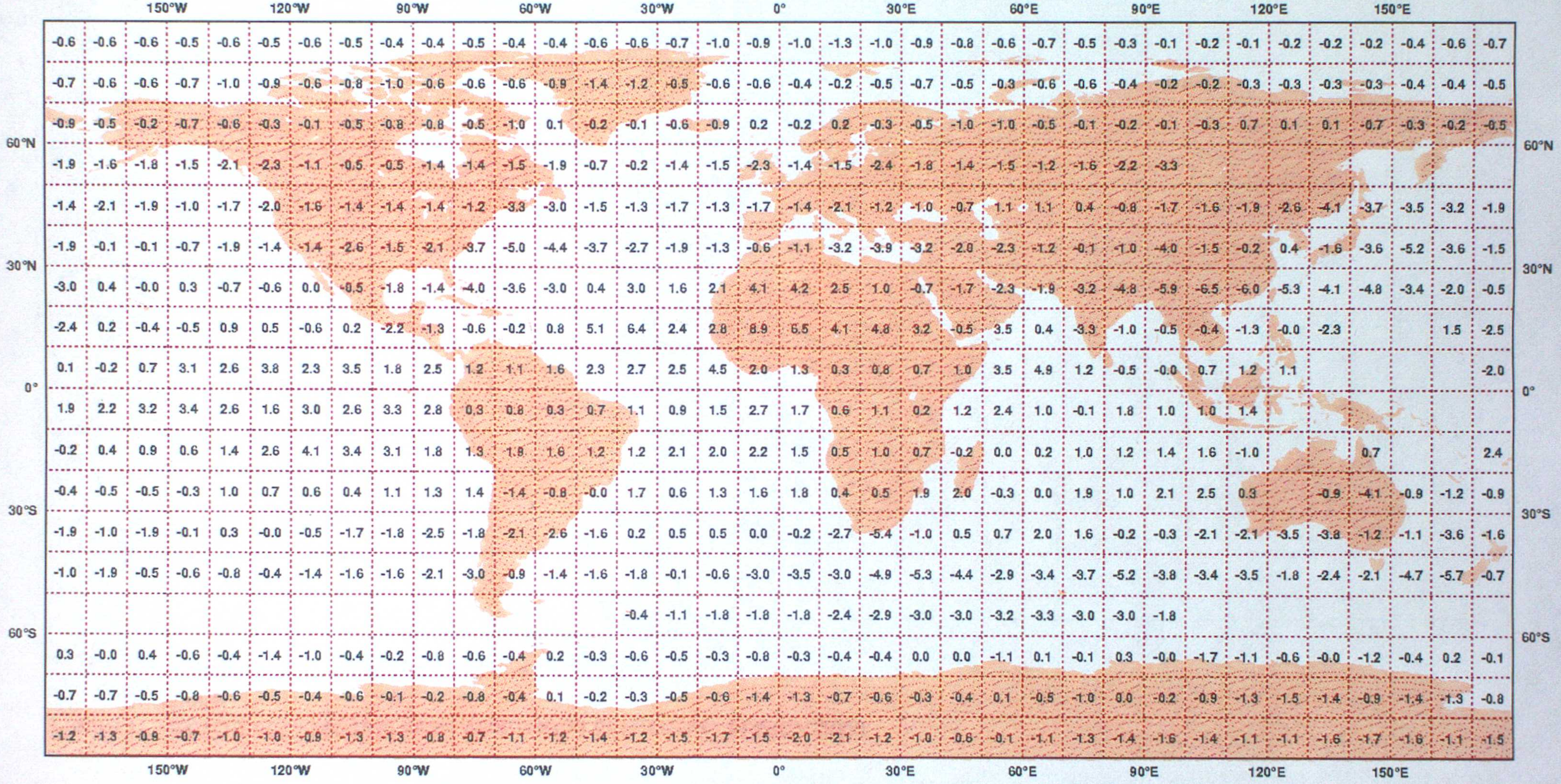

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 18. SATOB 401 - 700 hPa mean O-B speed differences (ms-1). MARCH 2006

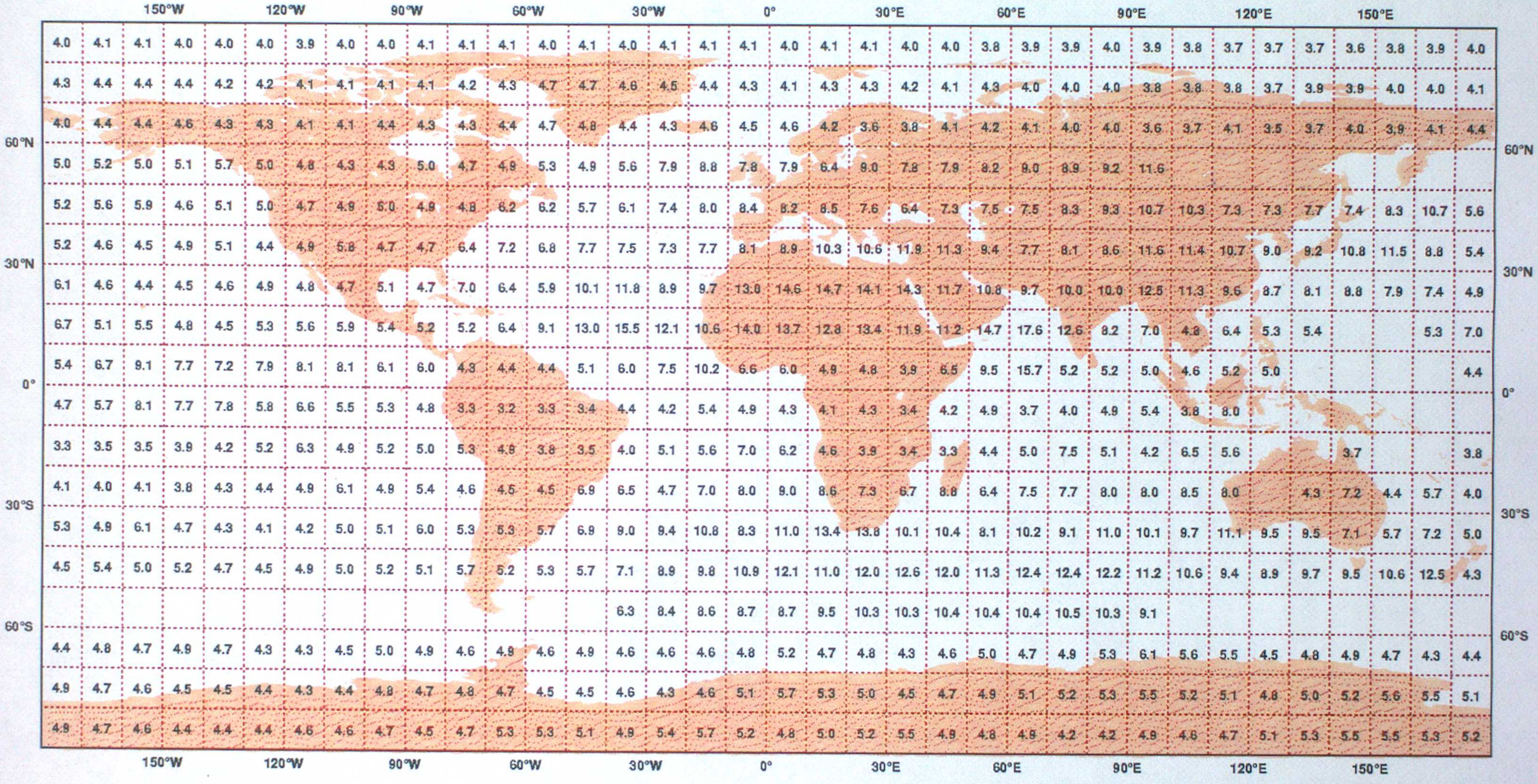
All observations

Values are plotted where greater than 10 obs are present



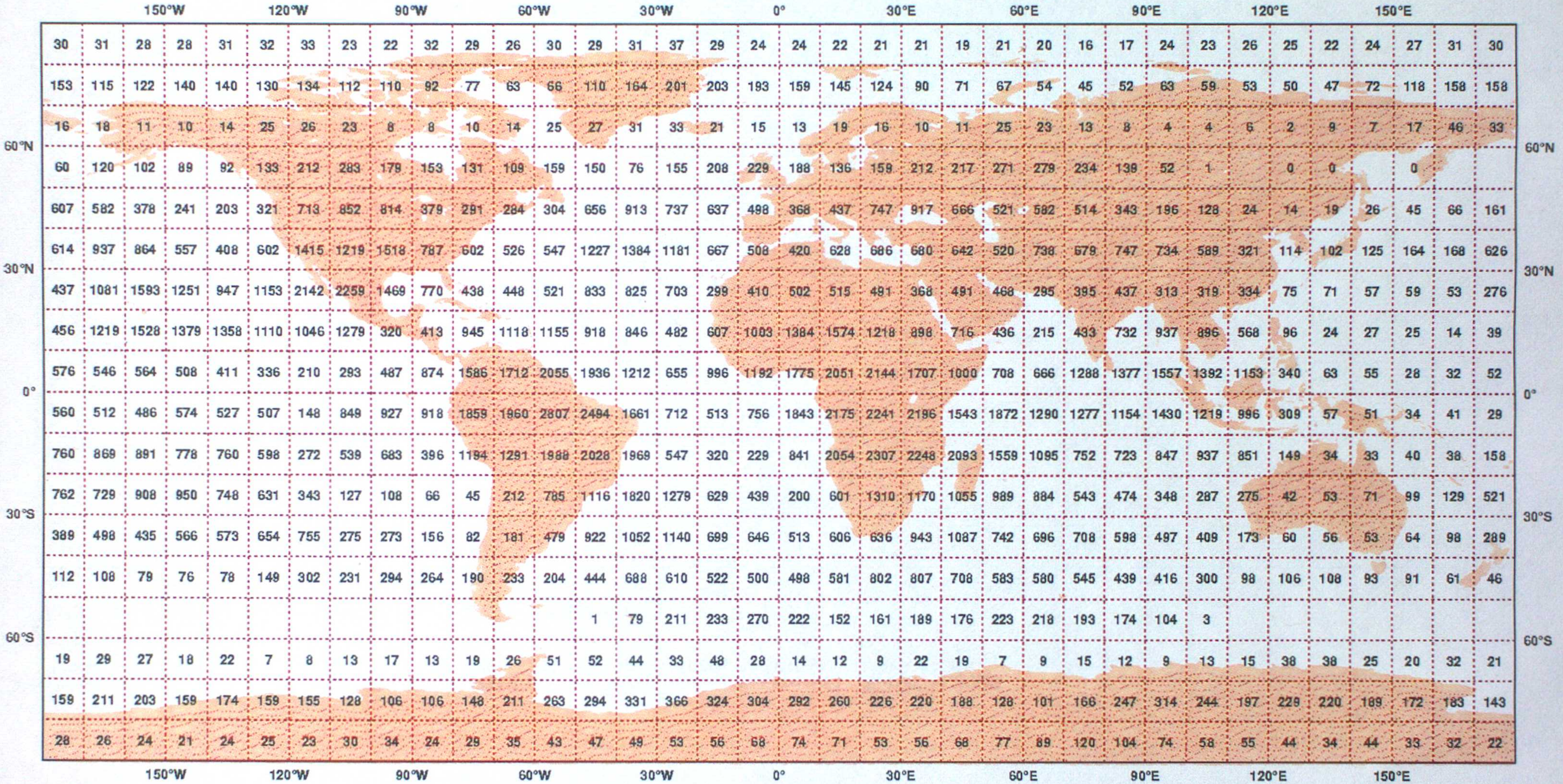
-0.6	-0.6	-0.6	-0.5	-0.6	-0.5	-0.6	-0.5	-0.4	-0.4	-0.5	-0.4	-0.4	-0.6	-0.6	-0.7	-1.0	-0.9	-1.0	-1.3	-1.0	-0.9	-0.8	-0.6	-0.7	-0.5	-0.3	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2	-0.4	-0.6	-0.7
-0.7	-0.6	-0.6	-0.7	-1.0	-0.9	-0.6	-0.8	-1.0	-0.6	-0.6	-0.6	-0.9	-1.4	-1.2	-0.5	-0.6	-0.6	-0.4	-0.2	-0.5	-0.7	-0.5	-0.3	-0.6	-0.6	-0.4	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.5
-0.9	-0.5	-0.2	-0.7	-0.6	-0.3	-0.1	-0.5	-0.8	-0.8	-0.5	-1.0	0.1	-0.2	-0.1	-0.6	-0.9	0.2	-0.2	0.2	-0.3	-0.5	-1.0	-1.0	-0.5	-0.1	-0.2	-0.1	-0.3	0.7	0.1	0.1	-0.7	-0.3	-0.2	-0.5
-1.9	-1.6	-1.8	-1.5	-2.1	-2.3	-1.1	-0.5	-0.5	-1.4	-1.4	-1.5	-1.9	-0.7	-0.2	-1.4	-1.5	-2.3	-1.4	-1.5	-2.4	-1.8	-1.4	-1.5	-1.2	-1.6	-2.2	-3.3								
-1.4	-2.1	-1.9	-1.0	-1.7	-2.0	-1.6	-1.4	-1.4	-1.4	-1.2	-3.3	-3.0	-1.5	-1.3	-1.7	-1.3	-1.7	-1.4	-2.1	-1.2	-1.0	-0.7	1.1	1.1	0.4	-0.8	-1.7	-1.6	-1.9	-2.6	-4.1	-3.7	-3.5	-3.2	-1.9
-1.9	-0.1	-0.1	-0.7	-1.9	-1.4	-1.4	-2.6	-1.5	-2.1	-3.7	-5.0	-4.4	-3.7	-2.7	-1.9	-1.3	-0.6	-1.1	-3.2	-3.9	-3.2	-2.0	-2.3	-1.2	-0.1	-1.0	-4.0	-1.5	-0.2	0.4	-1.6	-3.6	-5.2	-3.6	-1.5
-3.0	0.4	-0.0	0.3	-0.7	-0.6	0.0	-0.5	-1.8	-1.4	-4.0	-3.6	-3.0	0.4	3.0	1.6	2.1	4.1	4.2	2.5	1.0	-0.7	-1.7	-2.3	-1.9	-3.2	-4.8	-5.9	-6.5	-6.0	-5.3	-4.1	-4.8	-3.4	-2.0	-0.5
-2.4	0.2	-0.4	-0.5	0.9	0.5	-0.6	0.2	-2.2	-1.3	-0.6	-0.2	0.8	5.1	6.4	2.4	2.8	8.9	6.5	4.1	4.8	3.2	-0.5	3.5	0.4	-3.3	-1.0	-0.5	-0.4	-1.3	-0.0	-2.3			1.5	-2.5
0.1	-0.2	0.7	3.1	2.6	3.8	2.3	3.5	1.8	2.5	1.2	1.1	1.6	2.3	2.7	2.5	4.5	2.0	1.3	0.3	0.8	0.7	1.0	3.5	4.9	1.2	-0.5	-0.0	0.7	1.2	1.1					-2.0
1.9	2.2	3.2	3.4	2.6	1.6	3.0	2.6	3.3	2.8	0.3	0.8	0.3	0.7	1.1	0.9	1.5	2.7	1.7	0.6	1.1	0.2	1.2	2.4	1.0	-0.1	1.8	1.0	1.0	1.4						
-0.2	0.4	0.9	0.6	1.4	2.6	4.1	3.4	3.1	1.8	1.3	1.8	1.6	1.2	1.2	2.1	2.0	2.2	1.5	0.5	1.0	0.7	-0.2	0.0	0.2	1.0	1.2	1.4	1.6	-1.0			0.7			2.4
-0.4	-0.5	-0.5	-0.3	1.0	0.7	0.6	0.4	1.1	1.3	1.4	-1.4	-0.8	-0.0	1.7	0.6	1.3	1.6	1.8	0.4	0.5	1.9	2.0	-0.3	0.0	1.9	1.0	2.1	2.5	0.3		-0.9	-4.1	-0.9	-1.2	-0.9
-1.9	-1.0	-1.9	-0.1	0.3	-0.0	-0.5	-1.7	-1.8	-2.5	-1.8	-2.1	-2.6	-1.6	0.2	0.5	0.5	0.0	-0.2	-2.7	-5.4	-1.0	0.5	0.7	2.0	1.6	-0.2	-0.3	-2.1	-2.1	-3.5	-3.8	-1.2	-1.1	-3.6	-1.6
-1.0	-1.9	-0.5	-0.6	-0.8	-0.4	-1.4	-1.6	-1.6	-2.1	-3.0	-0.9	-1.4	-1.6	-1.8	-0.1	-0.6	-3.0	-3.5	-3.0	-4.9	-5.3	-4.4	-2.9	-3.4	-3.7	-5.2	-3.8	-3.4	-3.5	-1.8	-2.4	-2.1	-4.7	-5.7	-0.7
														-0.4	-1.1	-1.8	-1.8	-1.8	-2.4	-2.9	-3.0	-3.0	-3.2	-3.3	-3.0	-3.0	-1.8								
0.3	-0.0	0.4	-0.6	-0.4	-1.4	-1.0	-0.4	-0.2	-0.8	-0.6	-0.4	0.2	-0.3	-0.6	-0.5	-0.3	-0.8	-0.3	-0.4	-0.4	0.0	0.0	-1.1	0.1	-0.1	0.3	-0.0	-1.7	-1.1	-0.6	-0.0	-1.2	-0.4	0.2	-0.1
-0.7	-0.7	-0.5	-0.8	-0.6	-0.5	-0.4	-0.6	-0.1	-0.2	-0.8	-0.4	0.1	-0.2	-0.3	-0.5	-0.6	-1.4	-1.3	-0.7	-0.6	-0.3	-0.4	0.1	-0.5	-1.0	0.0	-0.2	-0.9	-1.3	-1.5	-1.4	-0.9	-1.4	-1.3	-0.8
-1.2	-1.3	-0.8	-0.7	-1.0	-1.0	-0.9	-1.3	-1.3	-0.8	-0.7	-1.1	-1.2	-1.4	-1.2	-1.5	-1.7	-1.5	-2.0	-2.1	-1.2	-1.0	-0.6	-0.1	-1.1	-1.3	-1.4	-1.6	-1.4	-1.1	-1.1	-1.6	-1.7	-1.6	-1.1	-1.5

Figure 19. SATOB 401 - 700 hPa mean RMS O-B vector differences (ms-1). MARCH 2006
All observations
Values are plotted where greater than 10 obs are present



4.0	4.1	4.1	4.0	4.0	4.0	3.9	4.0	4.0	4.1	4.1	4.1	4.0	4.1	4.0	4.1	4.1	4.1	4.0	4.1	4.1	4.0	4.0	3.8	3.9	3.9	4.0	3.9	3.8	3.7	3.7	3.7	3.6	3.8	3.9	4.0
4.3	4.4	4.4	4.4	4.2	4.2	4.1	4.1	4.1	4.1	4.2	4.3	4.7	4.7	4.6	4.5	4.4	4.3	4.1	4.3	4.3	4.2	4.1	4.3	4.0	4.0	4.0	3.8	3.8	3.8	3.7	3.9	3.9	4.0	4.0	4.1
4.0	4.4	4.4	4.6	4.3	4.3	4.1	4.1	4.4	4.3	4.3	4.4	4.7	4.8	4.4	4.3	4.6	4.5	4.6	4.2	3.6	3.8	4.1	4.2	4.1	4.0	4.0	3.6	3.7	4.1	3.5	3.7	4.0	3.9	4.1	4.4
5.0	5.2	5.0	5.1	5.7	5.0	4.8	4.3	4.3	5.0	4.7	4.9	5.3	4.9	5.6	7.9	8.8	7.8	7.9	6.4	9.0	7.8	7.9	8.2	9.0	8.9	9.2	11.6								
5.2	5.6	5.9	4.6	5.1	5.0	4.7	4.9	5.0	4.9	4.8	6.2	6.2	5.7	6.1	7.4	8.0	8.4	8.2	8.5	7.6	6.4	7.3	7.5	7.5	8.3	9.3	10.7	10.3	7.3	7.3	7.7	7.4	8.3	10.7	5.6
5.2	4.6	4.5	4.9	5.1	4.4	4.9	5.8	4.7	4.7	6.4	7.2	6.8	7.7	7.5	7.3	7.7	8.1	8.9	10.3	10.6	11.9	11.3	9.4	7.7	8.1	8.6	11.6	11.4	10.7	9.0	9.2	10.8	11.5	8.8	5.4
6.1	4.6	4.4	4.5	4.6	4.9	4.8	4.7	5.1	4.7	7.0	6.4	5.9	10.1	11.8	8.9	9.7	13.0	14.6	14.7	14.1	14.3	11.7	10.8	9.7	10.0	10.0	12.5	11.3	9.6	8.7	8.1	8.8	7.9	7.4	4.9
6.7	5.1	5.5	4.8	4.5	5.3	5.6	5.9	5.4	5.2	5.2	6.4	9.1	13.0	15.5	12.1	10.6	14.0	13.7	12.8	13.4	11.9	11.2	14.7	17.6	12.6	8.2	7.0	4.8	6.4	5.3	5.4			5.3	7.0
5.4	6.7	9.1	7.7	7.2	7.9	8.1	8.1	6.1	6.0	4.3	4.4	4.4	5.1	6.0	7.5	10.2	6.6	6.0	4.9	4.8	3.9	6.5	9.5	15.7	5.2	5.2	5.0	4.6	5.2	5.0					4.4
4.7	5.7	8.1	7.7	7.8	5.8	6.6	5.5	5.3	4.8	3.3	3.2	3.3	3.4	4.4	4.2	5.4	4.9	4.3	4.1	4.3	3.4	4.2	4.9	3.7	4.0	4.9	5.4	3.8	8.0						
3.3	3.5	3.5	3.9	4.2	5.2	6.3	4.9	5.2	5.0	5.3	4.8	3.8	3.5	4.0	5.1	5.6	7.0	6.2	4.6	3.9	3.4	3.3	4.4	5.0	7.5	5.1	4.2	6.5	5.6			3.7			3.8
4.1	4.0	4.1	3.8	4.3	4.4	4.9	6.1	4.9	5.4	4.6	4.5	4.5	6.9	6.5	4.7	7.0	8.0	9.0	8.6	7.3	6.7	8.8	6.4	7.5	7.7	8.0	8.0	8.5	8.0		4.3	7.2	4.4	5.7	4.0
5.3	4.9	6.1	4.7	4.3	4.1	4.2	5.0	5.1	6.0	5.3	5.3	5.7	6.9	9.0	9.4	10.8	8.3	11.0	13.4	13.8	10.1	10.4	8.1	10.2	9.1	11.0	10.1	9.7	11.1	9.5	9.5	7.1	5.7	7.2	5.0
4.5	5.4	5.0	5.2	4.7	4.5	4.9	5.0	5.2	5.1	5.7	5.2	5.3	5.7	7.1	8.9	9.8	10.9	12.1	11.0	12.0	12.6	12.0	11.3	12.4	12.4	12.2	11.2	10.6	9.4	8.9	9.7	9.5	10.6	12.5	4.3
														6.3	8.4	8.6	8.7	8.7	9.5	10.3	10.3	10.4	10.4	10.4	10.5	10.3	9.1								
4.4	4.8	4.7	4.9	4.7	4.3	4.3	4.5	5.0	4.9	4.6	4.9	4.6	4.9	4.6	4.6	4.6	4.8	5.2	4.7	4.8	4.3	4.6	5.0	4.7	4.9	5.3	6.1	5.6	5.5	4.5	4.8	4.9	4.7	4.3	4.4
4.9	4.7	4.6	4.5	4.5	4.4	4.3	4.4	4.8	4.7	4.8	4.7	4.5	4.5	4.6	4.3	4.6	5.1	5.7	5.3	5.0	4.5	4.7	4.9	5.1	5.2	5.3	5.5	5.2	5.1	4.8	5.0	5.2	5.6	5.5	5.1
4.9	4.7	4.6	4.4	4.4	4.4	4.6	4.6	4.7	4.5	4.7	5.3	5.3	5.1	4.9	5.4	5.7	5.2	4.8	5.0	5.2	5.5	4.9	4.8	4.9	4.2	4.2	4.9	4.6	4.7	5.1	5.3	5.5	5.5	5.3	5.2

Figure 20. SATOB 101 - 400 hPa mean daily count. MARCH 2006
Global average number of observations in 24 hours = 268231



30	31	28	28	31	32	33	23	22	32	29	26	30	29	31	37	29	24	24	22	21	21	19	21	20	16	17	24	23	26	25	22	24	27	31	30
153	115	122	140	140	130	134	112	110	92	77	63	66	110	164	201	203	193	159	145	124	90	71	67	54	45	52	63	59	53	50	47	72	118	158	158
16	18	11	10	14	25	26	23	8	8	10	14	25	27	31	33	21	15	13	19	16	10	11	25	23	13	8	4	4	6	2	9	7	17	46	33
60	120	102	89	92	133	212	283	179	153	131	109	159	150	76	155	208	229	188	136	159	212	217	271	279	234	139	52	1		0	0		0		
607	582	378	241	203	321	713	852	814	379	291	284	304	656	913	737	637	498	368	437	747	917	666	521	582	514	343	196	128	24	14	19	26	45	66	161
614	937	864	557	408	602	1415	1219	1518	787	602	526	547	1227	1384	1181	667	508	420	628	686	680	642	520	738	679	747	734	589	321	114	102	125	164	168	626
437	1081	1593	1251	947	1153	2142	2259	1469	770	438	448	521	833	825	703	299	410	502	515	491	368	491	468	295	395	437	313	319	334	75	71	57	59	53	276
456	1219	1528	1379	1358	1110	1046	1279	320	413	945	1118	1155	918	846	482	607	1003	1384	1574	1218	898	716	436	215	433	732	937	896	568	96	24	27	25	14	39
576	546	564	508	411	336	210	293	487	874	1586	1712	2055	1936	1212	655	996	1192	1775	2051	2144	1707	1000	708	666	1288	1377	1557	1392	1153	340	63	55	28	32	52
560	512	486	574	527	507	148	849	927	918	1859	1960	2807	2494	1661	712	513	756	1843	2175	2241	2196	1543	1872	1290	1277	1154	1430	1219	996	309	57	51	34	41	29
760	869	891	778	760	598	272	539	683	396	1194	1291	1988	2028	1969	547	320	229	841	2054	2307	2248	2093	1559	1095	752	723	847	937	851	149	34	33	40	38	158
762	729	908	950	748	631	343	127	108	66	45	212	785	1116	1820	1279	629	439	200	601	1310	1170	1055	989	884	543	474	348	287	275	42	53	71	99	129	521
389	498	435	566	573	654	755	275	273	156	82	181	479	922	1052	1140	699	646	513	606	636	943	1087	742	696	708	598	497	409	173	60	56	53	64	98	289
112	108	79	76	78	149	302	231	294	264	190	233	204	444	688	610	522	500	498	581	802	807	708	583	580	545	439	416	300	98	106	108	93	91	61	46
													1	79	211	233	270	222	152	161	189	176	223	218	193	174	104	3							
19	29	27	18	22	7	8	13	17	13	19	26	51	52	44	33	48	28	14	12	9	22	19	7	9	15	12	9	13	15	38	38	25	20	32	21
159	211	203	159	174	159	155	128	106	106	148	211	263	294	331	366	324	304	292	260	226	220	188	128	101	166	247	314	244	197	229	220	189	172	183	143
28	26	24	21	24	25	23	30	34	24	29	35	43	47	49	53	56	68	74	71	53	56	68	77	89	120	104	74	58	55	44	34	44	33	32	22

Figure 21. SATOB 101 - 400 hPa vector mean wind. MARCH 2006
All observations
Arrows are plotted where greater than 10 obs are present

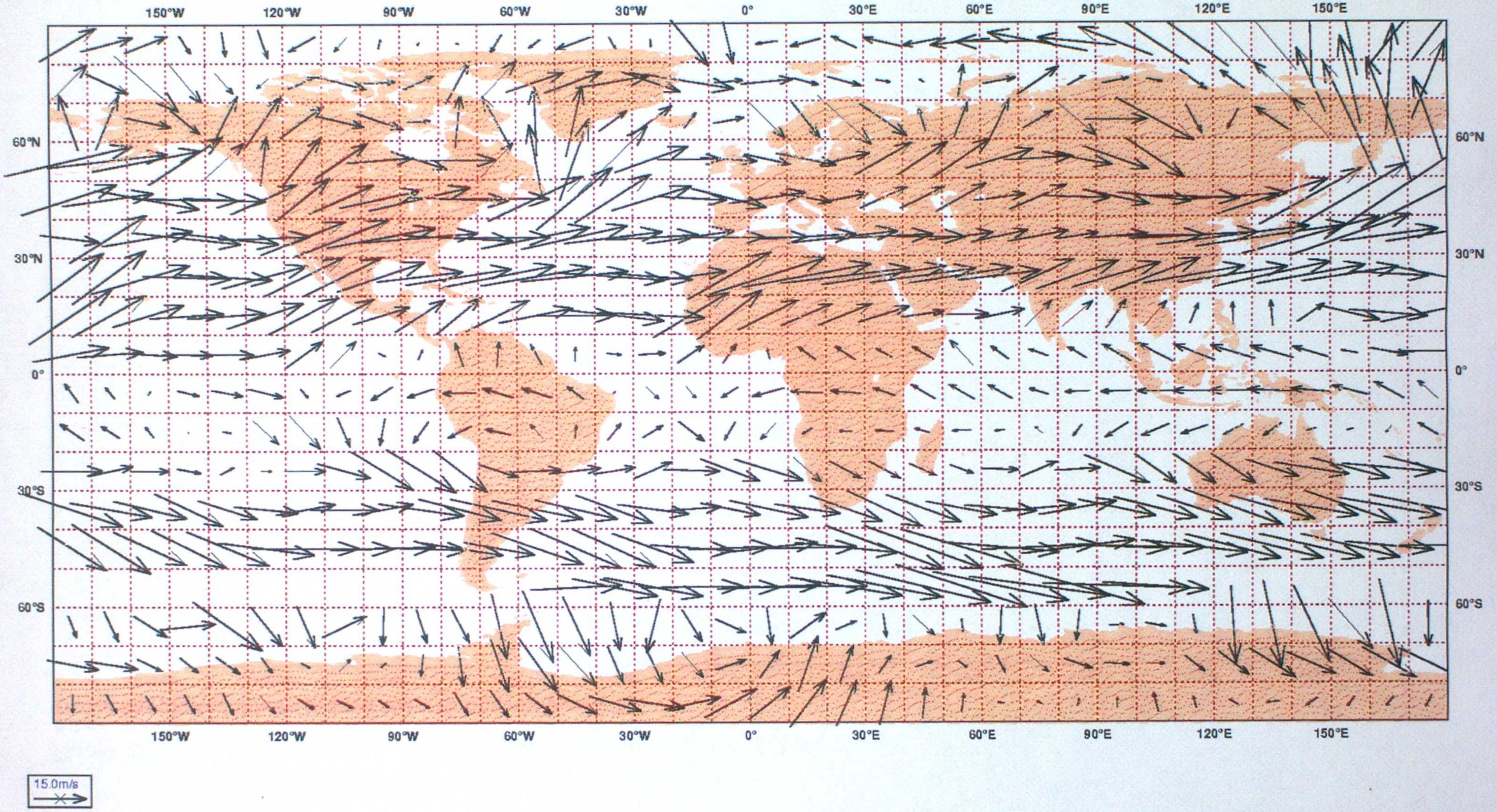

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 22. SATOB 101 - 400 hPa mean vector wind differences. MARCH 2006
All observations
Arrows are plotted where greater than 10 obs are present

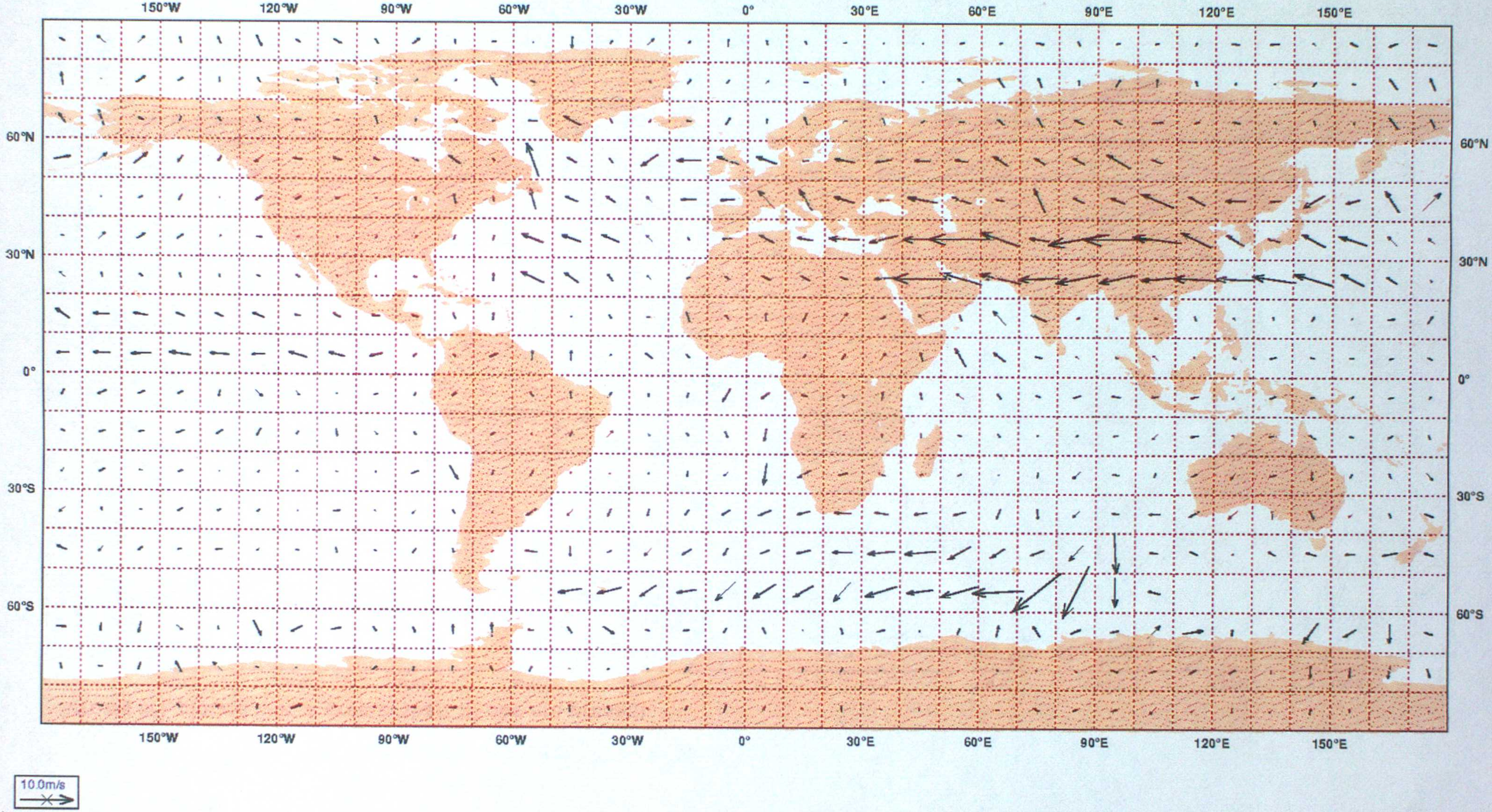
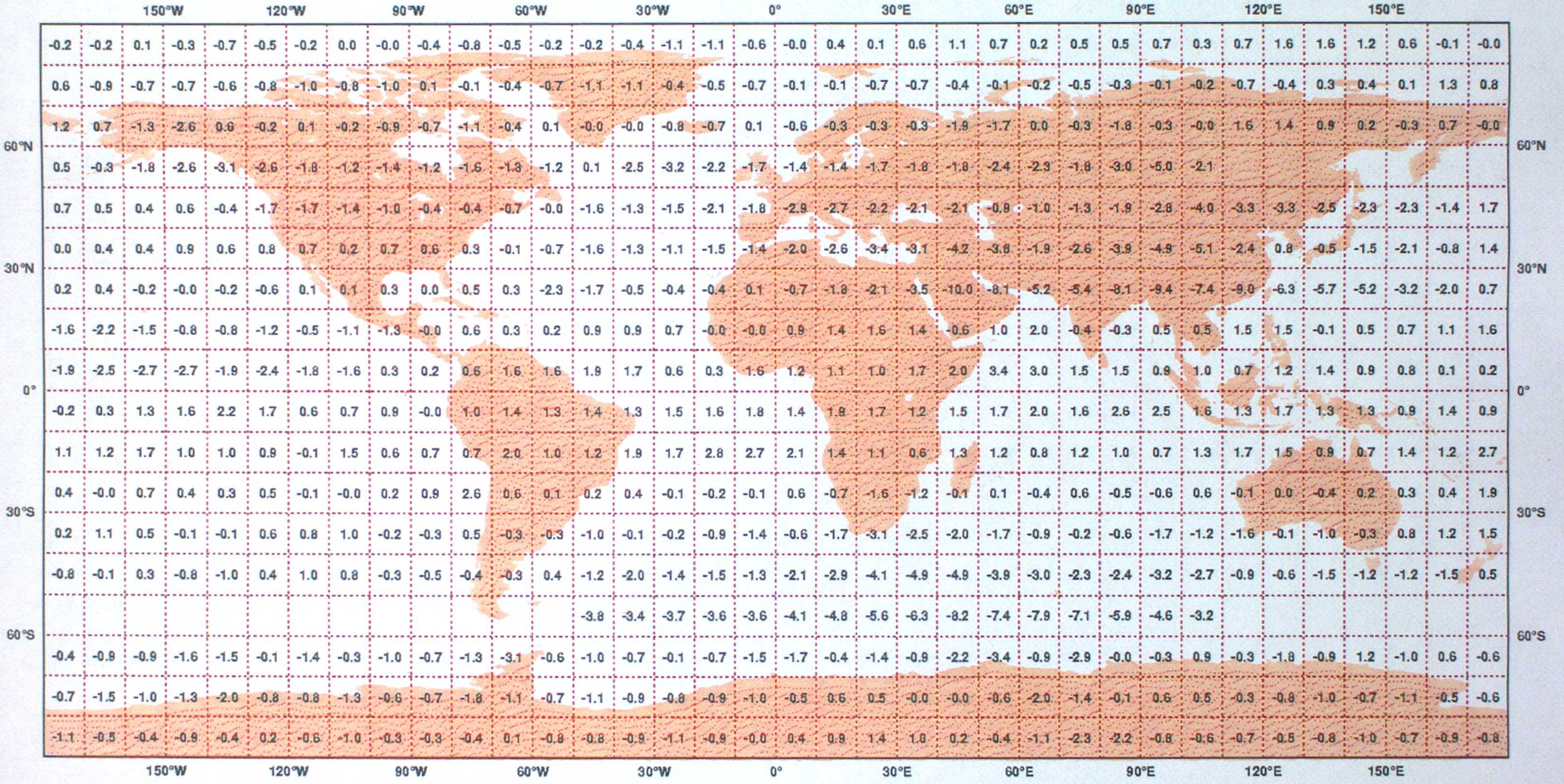
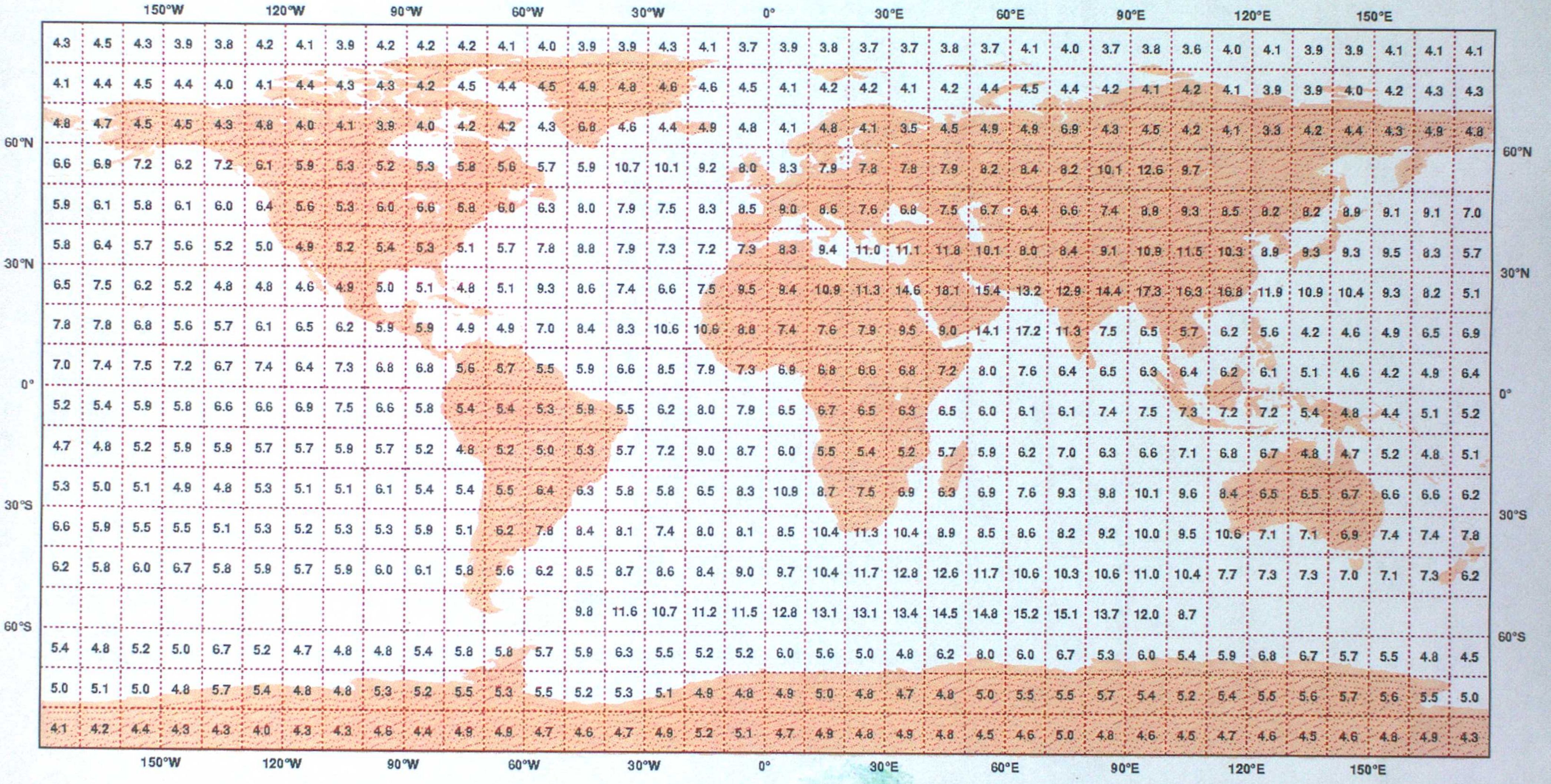

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 23. SATOB 101 - 400 hPa mean O-B speed differences (ms-1). MARCH 2006
All observations
Values are plotted where greater than 10 obs are present



-0.2	-0.2	0.1	-0.3	-0.7	-0.5	-0.2	0.0	-0.0	-0.4	-0.8	-0.5	-0.2	-0.2	-0.4	-1.1	-1.1	-0.6	-0.0	0.4	0.1	0.6	1.1	0.7	0.2	0.5	0.5	0.7	0.3	0.7	1.6	1.6	1.2	0.6	-0.1	-0.0
0.6	-0.9	-0.7	-0.7	-0.6	-0.8	-1.0	-0.8	-1.0	0.1	-0.1	-0.4	-0.7	-1.1	-1.1	-0.4	-0.5	-0.7	-0.1	-0.1	-0.7	-0.7	-0.4	-0.1	-0.2	-0.5	-0.3	-0.1	-0.2	-0.7	-0.4	0.3	0.4	0.1	1.3	0.8
1.2	0.7	-1.3	-2.6	0.6	-0.2	0.1	-0.2	-0.9	-0.7	-1.1	-0.4	0.1	-0.0	-0.0	-0.8	-0.7	0.1	-0.6	-0.3	-0.3	-0.3	-1.9	-1.7	0.0	-0.3	-1.8	-0.3	-0.0	1.6	1.4	0.9	0.2	-0.3	0.7	-0.0
0.5	-0.3	-1.8	-2.6	-3.1	-2.6	-1.8	-1.2	-1.4	-1.2	-1.6	-1.3	-1.2	0.1	-2.5	-3.2	-2.2	-1.7	-1.4	-1.4	-1.7	-1.8	-1.8	-2.4	-2.3	-1.8	-3.0	-5.0	-2.1							
0.7	0.5	0.4	0.6	-0.4	-1.7	-1.7	-1.4	-1.0	-0.4	-0.4	-0.7	-0.0	-1.6	-1.3	-1.5	-2.1	-1.8	-2.9	-2.7	-2.2	-2.1	-2.1	-0.9	-1.0	-1.3	-1.9	-2.8	-4.0	-3.3	-3.3	-2.5	-2.3	-2.3	-1.4	1.7
0.0	0.4	0.4	0.9	0.6	0.8	0.7	0.2	0.7	0.6	0.3	-0.1	-0.7	-1.6	-1.3	-1.1	-1.5	-1.4	-2.0	-2.6	-3.4	-3.1	-4.2	-3.8	-1.9	-2.6	-3.9	-4.9	-5.1	-2.4	0.8	-0.5	-1.5	-2.1	-0.8	1.4
0.2	0.4	-0.2	-0.0	-0.2	-0.6	0.1	0.1	0.3	0.0	0.5	0.3	-2.3	-1.7	-0.5	-0.4	-0.4	0.1	-0.7	-1.8	-2.1	-3.5	-10.0	-8.1	-5.2	-5.4	-8.1	-9.4	-7.4	-9.0	-6.3	-5.7	-5.2	-3.2	-2.0	0.7
-1.6	-2.2	-1.5	-0.8	-0.8	-1.2	-0.5	-1.1	-1.3	-0.0	0.6	0.3	0.2	0.9	0.9	0.7	-0.0	-0.0	0.9	1.4	1.6	1.4	-0.6	1.0	2.0	-0.4	-0.3	0.5	0.5	1.5	1.5	-0.1	0.5	0.7	1.1	1.6
-1.9	-2.5	-2.7	-2.7	-1.9	-2.4	-1.8	-1.6	0.3	0.2	0.6	1.6	1.6	1.9	1.7	0.6	0.3	1.6	1.2	1.1	1.0	1.7	2.0	3.4	3.0	1.5	1.5	0.9	1.0	0.7	1.2	1.4	0.9	0.8	0.1	0.2
-0.2	0.3	1.3	1.6	2.2	1.7	0.6	0.7	0.9	-0.0	1.0	1.4	1.3	1.4	1.3	1.5	1.6	1.8	1.4	1.9	1.7	1.2	1.5	1.7	2.0	1.6	2.6	2.5	1.6	1.3	1.7	1.3	1.3	0.9	1.4	0.9
1.1	1.2	1.7	1.0	1.0	0.9	-0.1	1.5	0.6	0.7	0.7	2.0	1.0	1.2	1.9	1.7	2.8	2.7	2.1	1.4	1.1	0.6	1.3	1.2	0.8	1.2	1.0	0.7	1.3	1.7	1.5	0.9	0.7	1.4	1.2	2.7
0.4	-0.0	0.7	0.4	0.3	0.5	-0.1	-0.0	0.2	0.9	2.6	0.6	0.1	0.2	0.4	-0.1	-0.2	-0.1	0.6	-0.7	-1.6	-1.2	-0.1	0.1	-0.4	0.6	-0.5	-0.6	0.6	-0.1	0.0	-0.4	0.2	0.3	0.4	1.9
0.2	1.1	0.5	-0.1	-0.1	0.6	0.8	1.0	-0.2	-0.3	0.5	-0.3	-0.3	-1.0	-0.1	-0.2	-0.9	-1.4	-0.6	-1.7	-3.1	-2.5	-2.0	-1.7	-0.9	-0.2	-0.6	-1.7	-1.2	-1.6	-0.1	-1.0	-0.3	0.8	1.2	1.5
-0.8	-0.1	0.3	-0.8	-1.0	0.4	1.0	0.8	-0.3	-0.5	-0.4	-0.3	0.4	-1.2	-2.0	-1.4	-1.5	-1.3	-2.1	-2.9	-4.1	-4.9	-4.9	-3.9	-3.0	-2.3	-2.4	-3.2	-2.7	-0.9	-0.6	-1.5	-1.2	-1.2	-1.5	0.5
													-3.8	-3.4	-3.7	-3.6	-3.6	-4.1	-4.8	-5.6	-6.3	-8.2	-7.4	-7.9	-7.1	-5.9	-4.6	-3.2							
-0.4	-0.9	-0.9	-1.6	-1.5	-0.1	-1.4	-0.3	-1.0	-0.7	-1.3	-3.1	-0.6	-1.0	-0.7	-0.1	-0.7	-1.5	-1.7	-0.4	-1.4	-0.9	-2.2	-3.4	-0.9	-2.9	-0.0	-0.3	0.9	-0.3	-1.8	-0.9	1.2	-1.0	0.6	-0.6
-0.7	-1.5	-1.0	-1.3	-2.0	-0.8	-0.8	-1.3	-0.6	-0.7	-1.8	-1.1	-0.7	-1.1	-0.9	-0.8	-0.9	-1.0	-0.5	0.6	0.5	-0.0	-0.0	-0.6	-2.0	-1.4	-0.1	0.6	0.5	-0.3	-0.8	-1.0	-0.7	-1.1	-0.5	-0.6
-1.1	-0.5	-0.4	-0.9	-0.4	0.2	-0.6	-1.0	-0.3	-0.3	-0.4	0.1	-0.8	-0.8	-0.9	-1.1	-0.9	-0.0	0.4	0.9	1.4	1.0	0.2	-0.4	-1.1	-2.3	-2.2	-0.8	-0.6	-0.7	-0.5	-0.8	-1.0	-0.7	-0.9	-0.8

Figure 24. SATOB 101 - 400 hPa mean RMS O-B vector differences (ms-1). MARCH 2006
All observations
Values are plotted where greater than 10 obs are present



4.3	4.5	4.3	3.9	3.8	4.2	4.1	3.9	4.2	4.2	4.2	4.1	4.0	3.9	3.9	4.3	4.1	3.7	3.9	3.8	3.7	3.7	3.8	3.7	4.1	4.0	3.7	3.8	3.6	4.0	4.1	3.9	3.9	4.1	4.1	4.1
4.1	4.4	4.5	4.4	4.0	4.1	4.4	4.3	4.3	4.2	4.5	4.4	4.5	4.9	4.8	4.6	4.6	4.5	4.1	4.2	4.2	4.1	4.2	4.4	4.5	4.4	4.2	4.1	4.2	4.1	3.9	3.9	4.0	4.2	4.3	4.3
4.8	4.7	4.5	4.5	4.3	4.8	4.0	4.1	3.9	4.0	4.2	4.2	4.3	6.8	4.6	4.4	4.9	4.8	4.1	4.8	4.1	3.5	4.5	4.9	4.9	6.9	4.3	4.5	4.2	4.1	3.3	4.2	4.4	4.3	4.9	4.8
6.6	6.9	7.2	6.2	7.2	6.1	5.9	5.3	5.2	5.3	5.8	5.6	5.7	5.9	10.7	10.1	9.2	8.0	8.3	7.9	7.8	7.8	7.9	8.2	8.4	8.2	10.1	12.6	9.7							
5.9	6.1	5.8	6.1	6.0	6.4	5.6	5.3	6.0	6.6	5.8	6.0	6.3	8.0	7.9	7.5	8.3	8.5	9.0	8.6	7.6	6.8	7.5	6.7	6.4	6.6	7.4	8.9	9.3	8.5	8.2	8.2	8.9	9.1	9.1	7.0
5.8	6.4	5.7	5.6	5.2	5.0	4.9	5.2	5.4	5.3	5.1	5.7	7.8	8.8	7.9	7.3	7.2	7.3	8.3	9.4	11.0	11.1	11.8	10.1	8.0	8.4	9.1	10.9	11.5	10.3	8.9	9.3	9.3	9.5	8.3	5.7
6.5	7.5	6.2	5.2	4.8	4.8	4.6	4.9	5.0	5.1	4.8	5.1	9.3	8.6	7.4	6.6	7.5	9.5	9.4	10.9	11.3	14.6	18.1	15.4	13.2	12.9	14.4	17.3	16.3	16.8	11.9	10.9	10.4	9.3	8.2	5.1
7.8	7.8	6.8	5.6	5.7	6.1	6.5	6.2	5.9	5.9	4.9	4.9	7.0	8.4	8.3	10.6	10.6	8.8	7.4	7.6	7.9	9.5	9.0	14.1	17.2	11.3	7.5	6.5	5.7	6.2	5.6	4.2	4.6	4.9	6.5	6.9
7.0	7.4	7.5	7.2	6.7	7.4	6.4	7.3	6.8	6.8	5.6	5.7	5.5	5.9	6.6	8.5	7.9	7.3	6.9	6.8	6.6	6.8	7.2	8.0	7.6	6.4	6.5	6.3	6.4	6.2	6.1	5.1	4.6	4.2	4.9	6.4
5.2	5.4	5.9	5.8	6.6	6.6	6.9	7.5	6.6	5.8	5.4	5.4	5.3	5.9	5.5	6.2	8.0	7.9	6.5	6.7	6.5	6.3	6.5	6.0	6.1	6.1	7.4	7.5	7.3	7.2	7.2	5.4	4.8	4.4	5.1	5.2
4.7	4.8	5.2	5.9	5.9	5.7	5.7	5.9	5.7	5.2	4.8	5.2	5.0	5.3	5.7	7.2	9.0	8.7	6.0	5.5	5.4	5.2	5.7	5.9	6.2	7.0	6.3	6.6	7.1	6.8	6.7	4.8	4.7	5.2	4.8	5.1
5.3	5.0	5.1	4.9	4.8	5.3	5.1	5.1	6.1	5.4	5.4	5.5	6.4	6.3	5.8	5.8	6.5	8.3	10.9	8.7	7.5	6.9	6.3	6.9	7.6	9.3	9.8	10.1	9.6	8.4	6.5	6.5	6.7	6.6	6.6	6.2
6.6	5.9	5.5	5.5	5.1	5.3	5.2	5.3	5.3	5.9	5.1	6.2	7.8	8.4	8.1	7.4	8.0	8.1	8.5	10.4	11.3	10.4	8.9	8.5	8.6	8.2	9.2	10.0	9.5	10.6	7.1	7.1	6.9	7.4	7.4	7.8
6.2	5.8	6.0	6.7	5.8	5.9	5.7	5.9	6.0	6.1	5.8	5.6	6.2	8.5	8.7	8.6	8.4	9.0	9.7	10.4	11.7	12.8	12.6	11.7	10.6	10.3	10.6	11.0	10.4	7.7	7.3	7.3	7.0	7.1	7.3	6.2
													9.8	11.6	10.7	11.2	11.5	12.8	13.1	13.1	13.4	14.5	14.8	15.2	15.1	13.7	12.0	8.7							
5.4	4.8	5.2	5.0	6.7	5.2	4.7	4.8	4.8	5.4	5.8	5.8	5.7	5.9	6.3	5.5	5.2	5.2	6.0	5.6	5.0	4.8	6.2	8.0	6.0	6.7	5.3	6.0	5.4	5.9	6.8	6.7	5.7	5.5	4.8	4.5
5.0	5.1	5.0	4.8	5.7	5.4	4.8	4.8	5.3	5.2	5.5	5.3	5.5	5.2	5.3	5.1	4.9	4.8	4.9	5.0	4.8	4.7	4.8	5.0	5.5	5.5	5.7	5.4	5.2	5.4	5.5	5.6	5.7	5.6	5.5	5.0
4.1	4.2	4.4	4.3	4.3	4.0	4.3	4.3	4.6	4.4	4.9	4.9	4.7	4.6	4.7	4.9	5.2	5.1	4.7	4.9	4.8	4.9	4.8	4.5	4.6	5.0	4.8	4.6	4.5	4.7	4.6	4.5	4.6	4.8	4.9	4.3

MONITORING OF SATELLITE TEMPERATURES

MONITORING CENTRE: EXETER

MONTH: Mar 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from NOAA-15, NOAA-16 and NOAA-17.

Standard of comparison :Background field from UKMO global model.

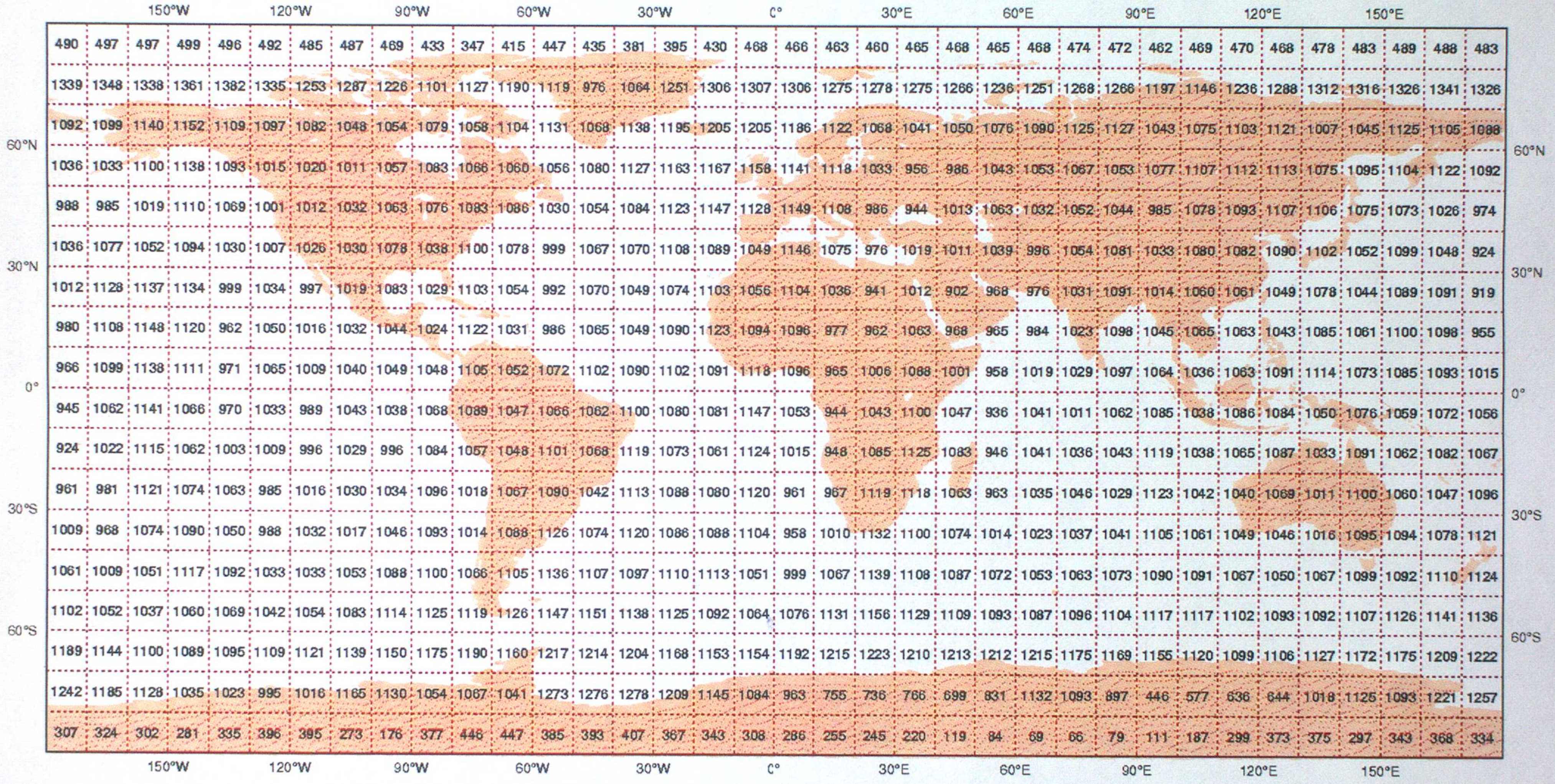
Selection Criteria :All soundings.

Data Extracted :Sounding channels (and approximate weighting function peaks, hPa)

HIRS8 (Surface)
HIRS15 (700)
HIRS11 (500-700)
HIRS4 (400)
AMSUA5 (700)
AMSUA7 (300)
AMSUA9 (100)

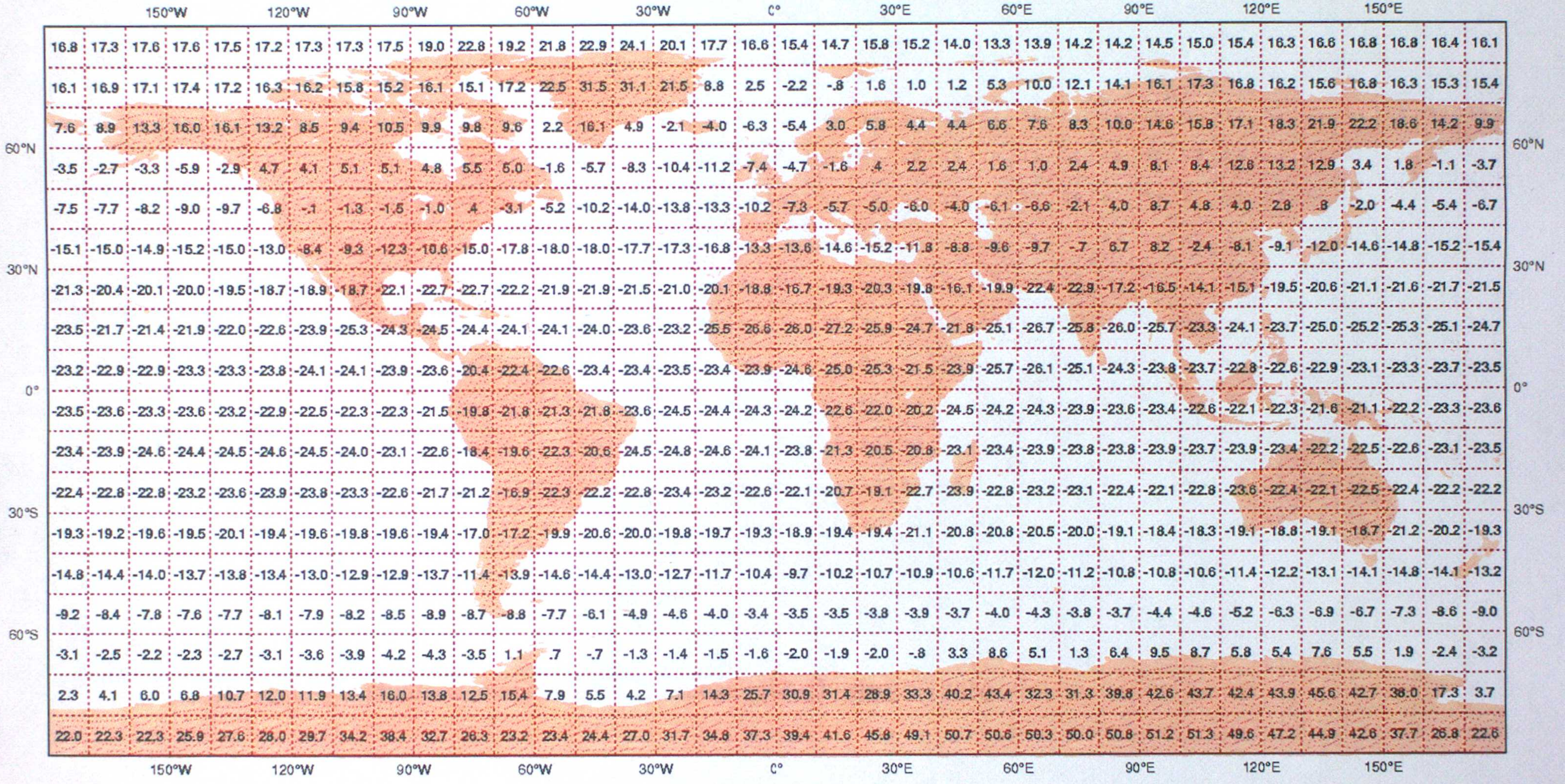
:Mean and standard deviation observation-minus-background brightness temperature differences

Figure 25. ATOVS mean daily count. MARCH 2006
NOAA15, using all observations
Global average number of observations in 24 hours = 648512



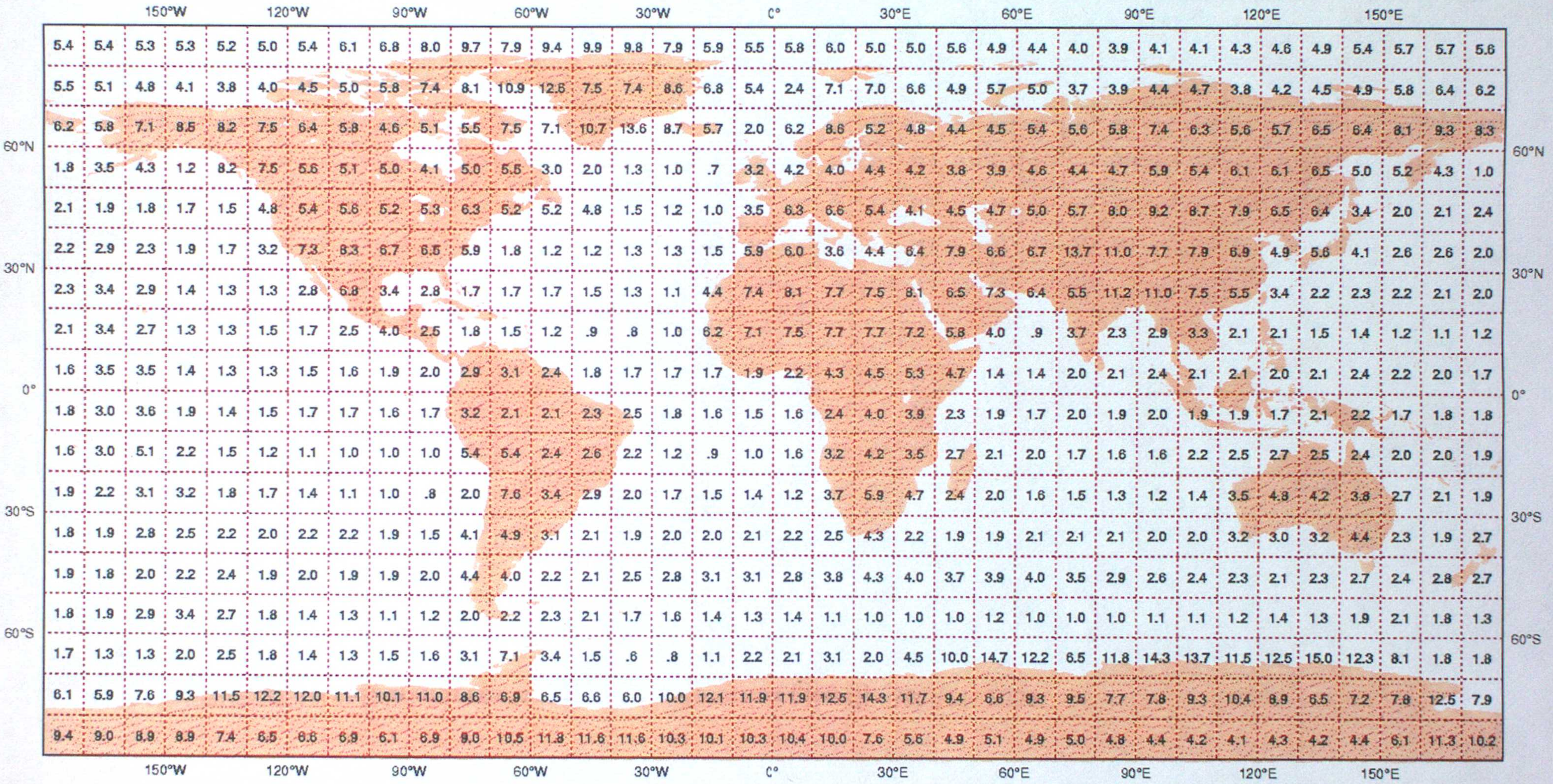
490	497	497	499	496	492	485	487	469	433	347	415	447	435	381	395	430	468	466	463	460	465	468	465	468	474	472	462	469	470	468	478	483	489	488	483
1339	1348	1338	1361	1382	1335	1253	1287	1226	1101	1127	1190	1119	976	1064	1251	1306	1307	1306	1275	1278	1275	1266	1236	1251	1268	1266	1197	1146	1236	1288	1312	1316	1326	1341	1326
1092	1099	1140	1152	1109	1097	1082	1048	1054	1079	1058	1104	1131	1068	1138	1195	1205	1205	1186	1122	1068	1041	1050	1076	1090	1125	1127	1043	1075	1103	1121	1007	1045	1125	1105	1088
1036	1033	1100	1138	1093	1015	1020	1011	1057	1083	1066	1060	1056	1080	1127	1163	1167	1158	1141	1118	1033	956	986	1043	1053	1067	1053	1077	1107	1112	1113	1075	1095	1104	1122	1092
988	985	1019	1110	1069	1001	1012	1032	1063	1076	1083	1086	1030	1054	1084	1123	1147	1128	1149	1108	986	944	1013	1063	1032	1052	1044	985	1078	1093	1107	1106	1075	1073	1026	974
1036	1077	1052	1094	1030	1007	1026	1030	1078	1038	1100	1078	999	1067	1070	1108	1089	1049	1146	1075	976	1019	1011	1039	996	1054	1081	1033	1080	1082	1090	1102	1052	1099	1048	924
1012	1128	1137	1134	999	1034	997	1019	1083	1029	1103	1054	992	1070	1049	1074	1103	1056	1104	1036	941	1012	902	968	976	1031	1091	1014	1060	1061	1049	1078	1044	1089	1091	919
980	1108	1148	1120	962	1050	1016	1032	1044	1024	1122	1031	986	1065	1049	1090	1123	1094	1096	977	962	1063	968	965	984	1023	1098	1045	1065	1063	1043	1085	1061	1100	1098	955
966	1099	1138	1111	971	1065	1009	1040	1049	1048	1105	1052	1072	1102	1090	1102	1091	1118	1096	965	1006	1088	1001	958	1019	1029	1097	1064	1036	1063	1091	1114	1073	1085	1093	1015
945	1062	1141	1066	970	1033	989	1043	1038	1068	1089	1047	1066	1062	1100	1080	1081	1147	1053	944	1043	1100	1047	936	1041	1011	1062	1085	1038	1086	1084	1050	1076	1059	1072	1056
924	1022	1115	1062	1003	1009	996	1029	996	1084	1057	1048	1101	1068	1119	1073	1061	1124	1015	948	1065	1125	1083	946	1041	1036	1043	1119	1038	1065	1087	1033	1091	1062	1082	1067
961	981	1121	1074	1063	985	1016	1030	1034	1096	1018	1067	1090	1042	1113	1088	1080	1120	961	967	1119	1118	1063	963	1035	1046	1029	1123	1042	1040	1069	1011	1100	1060	1047	1096
1009	968	1074	1090	1050	988	1032	1017	1046	1093	1014	1088	1126	1074	1120	1086	1088	1104	958	1010	1132	1100	1074	1014	1023	1037	1041	1105	1061	1049	1046	1016	1095	1094	1078	1121
1061	1009	1051	1117	1092	1033	1033	1053	1088	1100	1066	1105	1136	1107	1097	1110	1113	1051	999	1067	1139	1108	1087	1072	1053	1063	1073	1090	1091	1067	1050	1067	1099	1092	1110	1124
1102	1052	1037	1060	1069	1042	1054	1083	1114	1125	1119	1126	1147	1151	1138	1125	1092	1064	1076	1131	1156	1129	1109	1093	1087	1096	1104	1117	1117	1102	1093	1092	1107	1126	1141	1136
1189	1144	1100	1089	1095	1109	1121	1139	1150	1175	1190	1160	1217	1214	1204	1168	1153	1154	1192	1215	1223	1210	1213	1212	1215	1175	1169	1155	1120	1099	1106	1127	1172	1175	1209	1222
1242	1185	1128	1035	1023	995	1016	1165	1130	1054	1067	1041	1273	1276	1278	1209	1145	1084	963	755	736	766	699	831	1132	1093	897	446	577	636	644	1018	1125	1093	1221	1257
307	324	302	281	335	396	395	273	176	377	446	447	385	393	407	367	343	308	286	255	245	220	119	84	69	66	79	111	187	299	373	375	297	343	368	334

Figure 26. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS8 (Surface)
NOAA15, using all observations



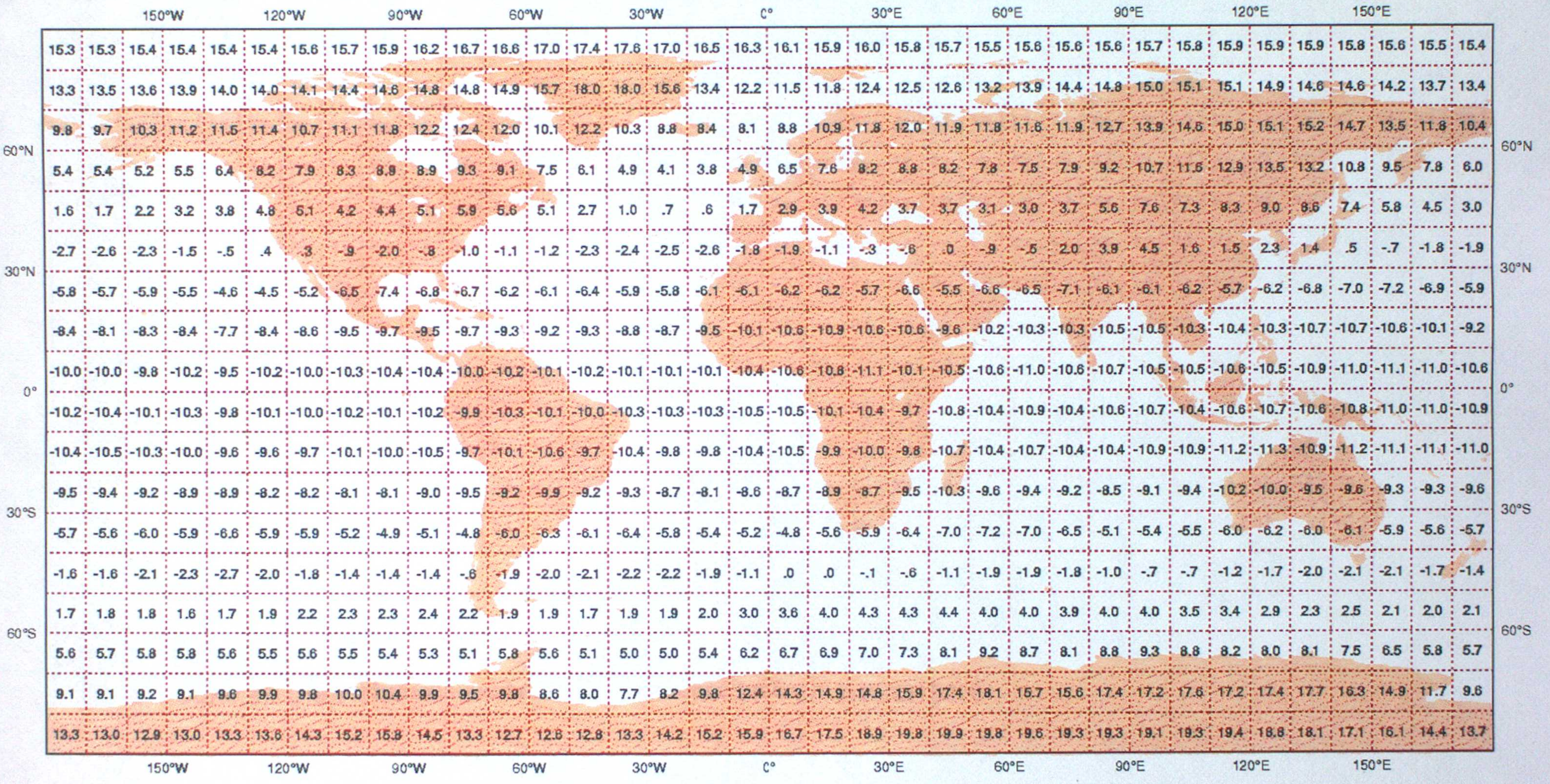
16.8	17.3	17.6	17.6	17.5	17.2	17.3	17.3	17.5	19.0	22.8	19.2	21.8	22.9	24.1	20.1	17.7	16.6	15.4	14.7	15.8	15.2	14.0	13.3	13.9	14.2	14.2	14.5	15.0	15.4	16.3	16.6	16.8	16.8	16.4	16.1
16.1	16.9	17.1	17.4	17.2	16.3	16.2	15.8	15.2	16.1	15.1	17.2	22.5	31.5	31.1	21.5	8.8	2.5	-2.2	-.8	1.6	1.0	1.2	5.3	10.0	12.1	14.1	16.1	17.3	16.8	16.2	15.6	16.8	16.3	15.3	15.4
7.6	8.9	13.3	16.0	16.1	13.2	8.5	9.4	10.5	9.9	9.8	9.6	2.2	16.1	4.9	-2.1	-4.0	-6.3	-5.4	3.0	5.8	4.4	4.4	6.6	7.6	8.3	10.0	14.6	15.8	17.1	18.3	21.9	22.2	18.6	14.2	9.9
-3.5	-2.7	-3.3	-5.9	-2.9	4.7	4.1	5.1	5.1	4.8	5.5	5.0	-1.6	-5.7	-8.3	-10.4	-11.2	-7.4	-4.7	-1.6	.4	2.2	2.4	1.6	1.0	2.4	4.9	8.1	8.4	12.8	13.2	12.9	3.4	1.8	-1.1	-3.7
-7.5	-7.7	-8.2	-9.0	-9.7	-6.8	-.1	-1.3	-1.5	-1.0	.4	-3.1	-5.2	-10.2	-14.0	-13.8	-13.3	-10.2	-7.3	-5.7	-5.0	-6.0	-4.0	-6.1	-6.6	-2.1	4.0	8.7	4.8	4.0	2.8	.8	-2.0	-4.4	-5.4	-6.7
-15.1	-15.0	-14.9	-15.2	-15.0	-13.0	-8.4	-9.3	-12.3	-10.6	-15.0	-17.8	-18.0	-18.0	-17.7	-17.3	-16.8	-13.3	-13.6	-14.6	-15.2	-11.8	-8.8	-9.6	-9.7	-.7	6.7	8.2	-2.4	-8.1	-9.1	-12.0	-14.6	-14.8	-15.2	-15.4
-21.3	-20.4	-20.1	-20.0	-19.5	-18.7	-18.9	-18.7	-22.1	-22.7	-22.7	-22.2	-21.9	-21.9	-21.5	-21.0	-20.1	-18.8	-16.7	-19.3	-20.3	-19.8	-16.1	-19.9	-22.4	-22.9	-17.2	-16.5	-14.1	-15.1	-19.5	-20.6	-21.1	-21.6	-21.7	-21.5
-23.5	-21.7	-21.4	-21.9	-22.0	-22.6	-23.9	-25.3	-24.3	-24.5	-24.4	-24.1	-24.1	-24.0	-23.6	-23.2	-25.5	-26.6	-26.0	-27.2	-25.9	-24.7	-21.8	-25.1	-26.7	-25.8	-26.0	-25.7	-23.3	-24.1	-23.7	-25.0	-25.2	-25.3	-25.1	-24.7
-23.2	-22.9	-22.9	-23.3	-23.3	-23.8	-24.1	-24.1	-23.9	-23.6	-20.4	-22.4	-22.6	-23.4	-23.4	-23.5	-23.4	-23.9	-24.6	-25.0	-25.3	-21.5	-23.9	-25.7	-26.1	-25.1	-24.3	-23.8	-23.7	-22.8	-22.6	-22.9	-23.1	-23.3	-23.7	-23.5
-23.5	-23.6	-23.3	-23.6	-23.2	-22.9	-22.5	-22.3	-22.3	-21.5	-19.8	-21.8	-21.3	-21.8	-23.6	-24.5	-24.4	-24.3	-24.2	-22.6	-22.0	-20.2	-24.5	-24.2	-24.3	-23.9	-23.6	-23.4	-22.6	-22.1	-22.3	-21.6	-21.1	-22.2	-23.3	-23.6
-23.4	-23.9	-24.6	-24.4	-24.5	-24.6	-24.5	-24.0	-23.1	-22.6	-18.4	-19.6	-22.3	-20.6	-24.5	-24.8	-24.6	-24.1	-23.8	-21.3	-20.5	-20.8	-23.1	-23.4	-23.9	-23.8	-23.8	-23.9	-23.7	-23.9	-23.4	-22.2	-22.5	-22.6	-23.1	-23.5
-22.4	-22.8	-22.8	-23.2	-23.6	-23.9	-23.8	-23.3	-22.6	-21.7	-21.2	-16.9	-22.3	-22.2	-22.8	-23.4	-23.2	-22.6	-22.1	-20.7	-19.1	-22.7	-23.9	-22.8	-23.2	-23.1	-22.4	-22.1	-22.8	-23.6	-22.4	-22.1	-22.5	-22.4	-22.2	-22.2
-19.3	-19.2	-19.6	-19.5	-20.1	-19.4	-19.6	-19.8	-19.6	-19.4	-17.0	-17.2	-19.9	-20.6	-20.0	-19.8	-19.7	-19.3	-18.9	-19.4	-19.4	-21.1	-20.8	-20.8	-20.5	-20.0	-19.1	-18.4	-18.3	-19.1	-18.8	-19.1	-18.7	-21.2	-20.2	-19.3
-14.8	-14.4	-14.0	-13.7	-13.8	-13.4	-13.0	-12.9	-12.9	-13.7	-11.4	-13.9	-14.6	-14.4	-13.0	-12.7	-11.7	-10.4	-9.7	-10.2	-10.7	-10.9	-10.6	-11.7	-12.0	-11.2	-10.8	-10.8	-10.6	-11.4	-12.2	-13.1	-14.1	-14.8	-14.1	-13.2
-9.2	-8.4	-7.8	-7.6	-7.7	-8.1	-7.9	-8.2	-8.5	-8.9	-8.7	-8.8	-7.7	-6.1	-4.9	-4.6	-4.0	-3.4	-3.5	-3.5	-3.8	-3.9	-3.7	-4.0	-4.3	-3.8	-3.7	-4.4	-4.6	-5.2	-6.3	-6.9	-6.7	-7.3	-8.6	-9.0
-3.1	-2.5	-2.2	-2.3	-2.7	-3.1	-3.6	-3.9	-4.2	-4.3	-3.5	1.1	.7	-.7	-1.3	-1.4	-1.5	-1.6	-2.0	-1.9	-2.0	-.8	3.3	8.6	5.1	1.3	6.4	9.5	8.7	5.8	5.4	7.6	5.5	1.9	-2.4	-3.2
2.3	4.1	6.0	6.8	10.7	12.0	11.9	13.4	16.0	13.8	12.5	15.4	7.9	5.5	4.2	7.1	14.3	25.7	30.9	31.4	28.9	33.3	40.2	43.4	32.3	31.3	39.8	42.6	43.7	42.4	43.9	45.6	42.7	38.0	17.3	3.7
22.0	22.3	22.3	25.9	27.6	28.0	29.7	34.2	38.4	32.7	26.3	23.2	23.4	24.4	27.0	31.7	34.8	37.3	39.4	41.6	45.8	49.1	50.7	50.6	50.3	50.0	50.8	51.2	51.3	49.6	47.2	44.9	42.6	37.7	26.8	22.6

Figure 27. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS8 (Surface)
NOAA15, using all observations



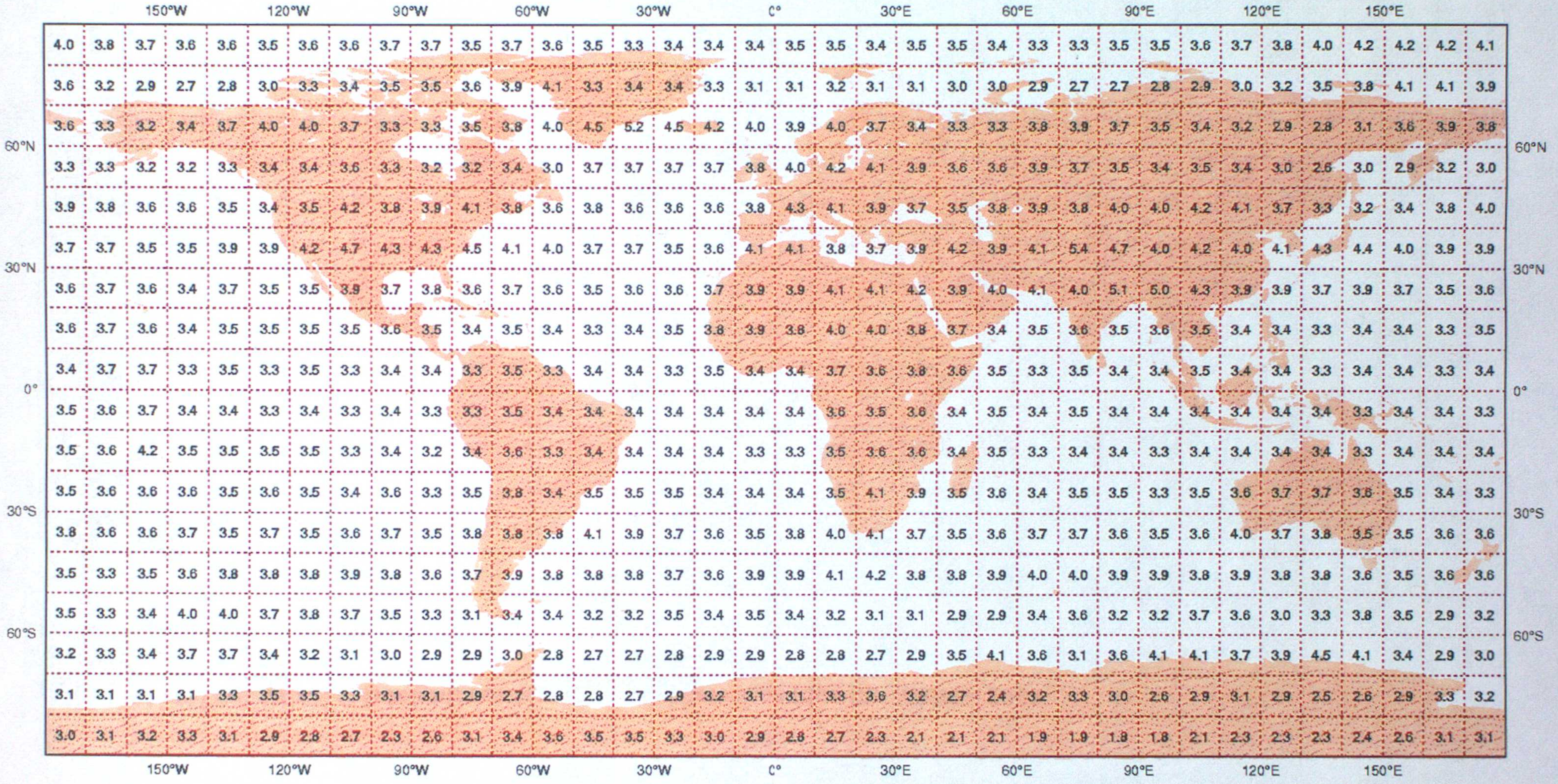
5.4	5.4	5.3	5.3	5.2	5.0	5.4	6.1	6.8	8.0	9.7	7.9	9.4	9.9	9.8	7.9	5.9	5.5	5.8	6.0	5.0	5.0	5.6	4.9	4.4	4.0	3.9	4.1	4.1	4.3	4.6	4.9	5.4	5.7	5.7	5.6
5.5	5.1	4.8	4.1	3.8	4.0	4.5	5.0	5.8	7.4	8.1	10.9	12.6	7.5	7.4	8.6	6.8	5.4	2.4	7.1	7.0	6.6	4.9	5.7	5.0	3.7	3.9	4.4	4.7	3.8	4.2	4.5	4.9	5.8	6.4	6.2
6.2	5.8	7.1	8.5	8.2	7.5	6.4	5.8	4.6	5.1	5.5	7.5	7.1	10.7	13.6	8.7	5.7	2.0	6.2	8.6	5.2	4.8	4.4	4.5	5.4	5.6	5.8	7.4	6.3	5.6	5.7	6.5	6.4	8.1	9.3	8.3
1.8	3.5	4.3	1.2	8.2	7.5	5.6	5.1	5.0	4.1	5.0	5.5	3.0	2.0	1.3	1.0	.7	3.2	4.2	4.0	4.4	4.2	3.8	3.9	4.6	4.4	4.7	5.9	5.4	6.1	6.1	6.5	5.0	5.2	4.3	1.0
2.1	1.9	1.8	1.7	1.5	4.8	5.4	5.6	5.2	5.3	6.3	5.2	5.2	4.8	1.5	1.2	1.0	3.5	6.3	6.6	5.4	4.1	4.5	4.7	5.0	5.7	8.0	9.2	8.7	7.9	6.5	6.4	3.4	2.0	2.1	2.4
2.2	2.9	2.3	1.9	1.7	3.2	7.3	8.3	6.7	6.5	5.9	1.8	1.2	1.2	1.3	1.3	1.5	5.9	6.0	3.6	4.4	6.4	7.9	6.6	6.7	13.7	11.0	7.7	7.9	6.9	4.9	5.6	4.1	2.6	2.6	2.0
2.3	3.4	2.9	1.4	1.3	1.3	2.8	6.8	3.4	2.8	1.7	1.7	1.7	1.5	1.3	1.1	4.4	7.4	8.1	7.7	7.5	8.1	6.5	7.3	6.4	5.5	11.2	11.0	7.5	5.5	3.4	2.2	2.3	2.2	2.1	2.0
2.1	3.4	2.7	1.3	1.3	1.5	1.7	2.5	4.0	2.5	1.8	1.5	1.2	.9	.8	1.0	6.2	7.1	7.5	7.7	7.7	7.2	5.8	4.0	.9	3.7	2.3	2.9	3.3	2.1	2.1	1.5	1.4	1.2	1.1	1.2
1.6	3.5	3.5	1.4	1.3	1.3	1.5	1.6	1.9	2.0	2.9	3.1	2.4	1.8	1.7	1.7	1.7	1.9	2.2	4.3	4.5	5.3	4.7	1.4	1.4	2.0	2.1	2.4	2.1	2.1	2.0	2.1	2.4	2.2	2.0	1.7
1.8	3.0	3.6	1.9	1.4	1.5	1.7	1.7	1.6	1.7	3.2	2.1	2.1	2.3	2.5	1.8	1.6	1.5	1.6	2.4	4.0	3.9	2.3	1.9	1.7	2.0	1.9	2.0	1.9	1.9	1.7	2.1	2.2	1.7	1.8	1.8
1.6	3.0	5.1	2.2	1.5	1.2	1.1	1.0	1.0	1.0	5.4	5.4	2.4	2.6	2.2	1.2	.9	1.0	1.6	3.2	4.2	3.5	2.7	2.1	2.0	1.7	1.6	1.6	2.2	2.5	2.7	2.5	2.4	2.0	2.0	1.9
1.9	2.2	3.1	3.2	1.8	1.7	1.4	1.1	1.0	.8	2.0	7.6	3.4	2.9	2.0	1.7	1.5	1.4	1.2	3.7	5.9	4.7	2.4	2.0	1.6	1.5	1.3	1.2	1.4	3.5	4.8	4.2	3.8	2.7	2.1	1.9
1.8	1.9	2.8	2.5	2.2	2.0	2.2	2.2	1.9	1.5	4.1	4.9	3.1	2.1	1.9	2.0	2.0	2.1	2.2	2.5	4.3	2.2	1.9	1.9	2.1	2.1	2.1	2.0	2.0	3.2	3.0	3.2	4.4	2.3	1.9	2.7
1.9	1.8	2.0	2.2	2.4	1.9	2.0	1.9	1.9	2.0	4.4	4.0	2.2	2.1	2.5	2.8	3.1	3.1	2.8	3.8	4.3	4.0	3.7	3.9	4.0	3.5	2.9	2.6	2.4	2.3	2.1	2.3	2.7	2.4	2.8	2.7
1.8	1.9	2.9	3.4	2.7	1.8	1.4	1.3	1.1	1.2	2.0	2.2	2.3	2.1	1.7	1.6	1.4	1.3	1.4	1.1	1.0	1.0	1.0	1.2	1.0	1.0	1.0	1.1	1.1	1.2	1.4	1.3	1.9	2.1	1.8	1.3
1.7	1.3	1.3	2.0	2.5	1.8	1.4	1.3	1.5	1.6	3.1	7.1	3.4	1.5	.6	.8	1.1	2.2	2.1	3.1	2.0	4.5	10.0	14.7	12.2	6.5	11.8	14.3	13.7	11.5	12.5	15.0	12.3	8.1	1.8	1.8
6.1	5.9	7.6	9.3	11.5	12.2	12.0	11.1	10.1	11.0	8.6	6.9	6.5	6.6	6.0	10.0	12.1	11.9	11.9	12.5	14.3	11.7	9.4	6.6	9.3	9.5	7.7	7.8	9.3	10.4	8.9	6.5	7.2	7.8	12.5	7.9
9.4	9.0	8.9	8.9	7.4	6.5	6.6	6.9	6.1	6.9	9.0	10.5	11.8	11.6	11.6	10.3	10.1	10.3	10.4	10.0	7.6	5.6	4.9	5.1	4.9	5.0	4.8	4.4	4.2	4.1	4.3	4.2	4.4	6.1	11.3	10.2

Figure 28. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



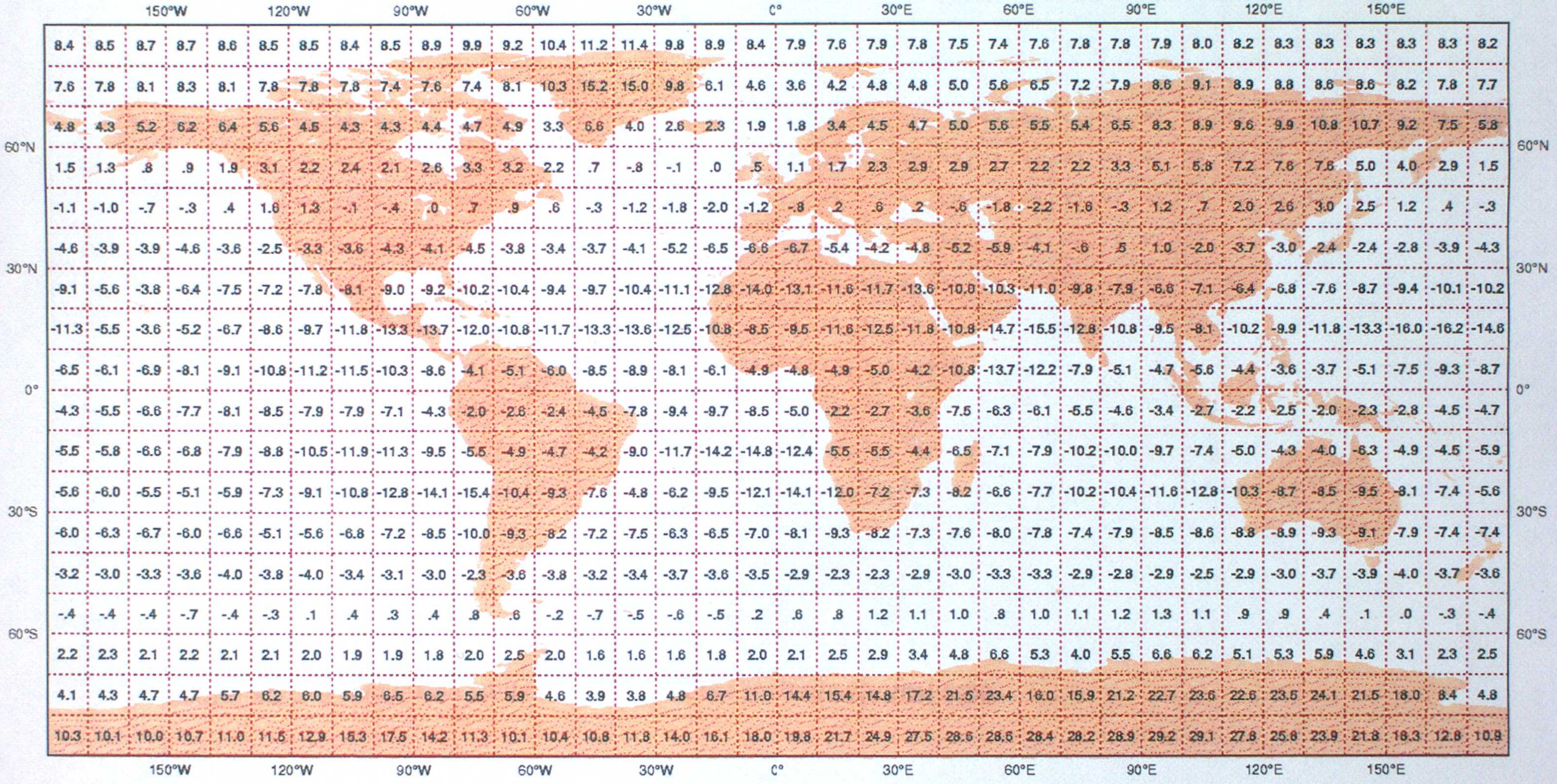
15.3	15.3	15.4	15.4	15.4	15.4	15.6	15.7	15.9	16.2	16.7	16.6	17.0	17.4	17.6	17.0	16.5	16.3	16.1	15.9	16.0	15.8	15.7	15.5	15.6	15.6	15.6	15.7	15.8	15.9	15.9	15.9	15.8	15.6	15.5	15.4
13.3	13.5	13.6	13.9	14.0	14.0	14.1	14.4	14.6	14.8	14.8	14.9	15.7	18.0	18.0	15.6	13.4	12.2	11.5	11.8	12.4	12.5	12.6	13.2	13.9	14.4	14.8	15.0	15.1	15.1	14.9	14.6	14.6	14.2	13.7	13.4
9.8	9.7	10.3	11.2	11.5	11.4	10.7	11.1	11.8	12.2	12.4	12.0	10.1	12.2	10.3	8.8	8.4	8.1	8.8	10.9	11.8	12.0	11.9	11.8	11.6	11.9	12.7	13.9	14.6	15.0	15.1	15.2	14.7	13.5	11.8	10.4
5.4	5.4	5.2	5.5	6.4	8.2	7.9	8.3	8.9	8.9	9.3	9.1	7.5	6.1	4.9	4.1	3.8	4.9	6.5	7.6	8.2	8.8	8.2	7.8	7.5	7.9	9.2	10.7	11.6	12.9	13.5	13.2	10.8	9.5	7.8	6.0
1.6	1.7	2.2	3.2	3.8	4.8	5.1	4.2	4.4	5.1	5.9	5.6	5.1	2.7	1.0	.7	.6	1.7	2.9	3.9	4.2	3.7	3.7	3.1	3.0	3.7	5.6	7.6	7.3	8.3	9.0	8.6	7.4	5.8	4.5	3.0
-2.7	-2.6	-2.3	-1.5	-.5	.4	.3	-.9	-2.0	-.8	-1.0	-1.1	-1.2	-2.3	-2.4	-2.5	-2.6	-1.8	-1.9	-1.1	-.3	-.6	.0	-.9	-.5	2.0	3.9	4.5	1.6	1.5	2.3	1.4	.5	-.7	-1.8	-1.9
-5.8	-5.7	-5.9	-5.5	-4.6	-4.5	-5.2	-6.5	-7.4	-6.8	-6.7	-6.2	-6.1	-6.4	-5.9	-5.8	-6.1	-6.1	-6.2	-6.2	-5.7	-6.6	-5.5	-6.6	-6.5	-7.1	-6.1	-6.1	-6.2	-5.7	-6.2	-6.8	-7.0	-7.2	-6.9	-5.9
-8.4	-8.1	-8.3	-8.4	-7.7	-8.4	-8.6	-9.5	-9.7	-9.5	-9.7	-9.3	-9.2	-9.3	-8.8	-8.7	-9.5	-10.1	-10.6	-10.9	-10.6	-10.6	-9.6	-10.2	-10.3	-10.3	-10.5	-10.5	-10.3	-10.4	-10.3	-10.7	-10.7	-10.6	-10.1	-9.2
-10.0	-10.0	-9.8	-10.2	-9.5	-10.2	-10.0	-10.3	-10.4	-10.4	-10.0	-10.2	-10.1	-10.2	-10.1	-10.1	-10.1	-10.4	-10.6	-10.8	-11.1	-10.1	-10.5	-10.6	-11.0	-10.6	-10.7	-10.5	-10.5	-10.6	-10.5	-10.9	-11.0	-11.1	-11.0	-10.6
-10.2	-10.4	-10.1	-10.3	-9.8	-10.1	-10.0	-10.2	-10.1	-10.2	-9.9	-10.3	-10.1	-10.0	-10.3	-10.3	-10.3	-10.5	-10.5	-10.1	-10.4	-9.7	-10.8	-10.4	-10.9	-10.4	-10.6	-10.7	-10.4	-10.6	-10.7	-10.6	-10.8	-11.0	-11.0	-10.9
-10.4	-10.5	-10.3	-10.0	-9.6	-9.6	-9.7	-10.1	-10.0	-10.5	-9.7	-10.1	-10.6	-9.7	-10.4	-9.8	-9.8	-10.4	-10.5	-9.9	-10.0	-9.8	-10.7	-10.4	-10.7	-10.4	-10.4	-10.9	-10.9	-11.2	-11.3	-10.9	-11.2	-11.1	-11.1	-11.0
-9.5	-9.4	-9.2	-8.9	-8.9	-8.2	-8.2	-8.1	-8.1	-9.0	-9.5	-9.2	-9.9	-9.2	-9.3	-8.7	-8.1	-8.6	-8.7	-8.9	-8.7	-9.5	-10.3	-9.6	-9.4	-9.2	-8.5	-9.1	-9.4	-10.2	-10.0	-9.5	-9.6	-9.3	-9.3	-9.6
-5.7	-5.6	-6.0	-5.9	-6.6	-5.9	-5.9	-5.2	-4.9	-5.1	-4.8	-6.0	-6.3	-6.1	-6.4	-5.8	-5.4	-5.2	-4.8	-5.6	-5.9	-6.4	-7.0	-7.2	-7.0	-6.5	-5.1	-5.4	-5.5	-6.0	-6.2	-6.0	-6.1	-5.9	-5.6	-5.7
-1.6	-1.6	-2.1	-2.3	-2.7	-2.0	-1.8	-1.4	-1.4	-1.4	-.6	-1.9	-2.0	-2.1	-2.2	-2.2	-1.9	-1.1	.0	.0	-.1	-.6	-1.1	-1.9	-1.9	-1.8	-1.0	-.7	-.7	-1.2	-1.7	-2.0	-2.1	-2.1	-1.7	-1.4
1.7	1.8	1.8	1.6	1.7	1.9	2.2	2.3	2.3	2.4	2.2	1.9	1.9	1.7	1.9	1.9	2.0	3.0	3.6	4.0	4.3	4.3	4.4	4.0	4.0	3.9	4.0	4.0	3.5	3.4	2.9	2.3	2.5	2.1	2.0	2.1
5.6	5.7	5.8	5.8	5.6	5.5	5.6	5.5	5.4	5.3	5.1	5.8	5.6	5.1	5.0	5.0	5.4	6.2	6.7	6.9	7.0	7.3	8.1	9.2	8.7	8.1	8.8	9.3	8.8	8.2	8.0	8.1	7.5	6.5	5.8	5.7
9.1	9.1	9.2	9.1	9.6	9.9	9.8	10.0	10.4	9.9	9.5	9.8	8.6	8.0	7.7	8.2	9.8	12.4	14.3	14.9	14.8	15.9	17.4	18.1	15.7	15.6	17.4	17.2	17.6	17.2	17.4	17.7	16.3	14.9	11.7	9.6
13.3	13.0	12.9	13.0	13.3	13.6	14.3	15.2	15.8	14.5	13.3	12.7	12.6	12.8	13.3	14.2	15.2	15.9	16.7	17.5	18.9	19.8	19.9	19.8	19.6	19.3	19.3	19.1	19.3	19.4	18.8	18.1	17.1	16.1	14.4	13.7

Figure 29. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



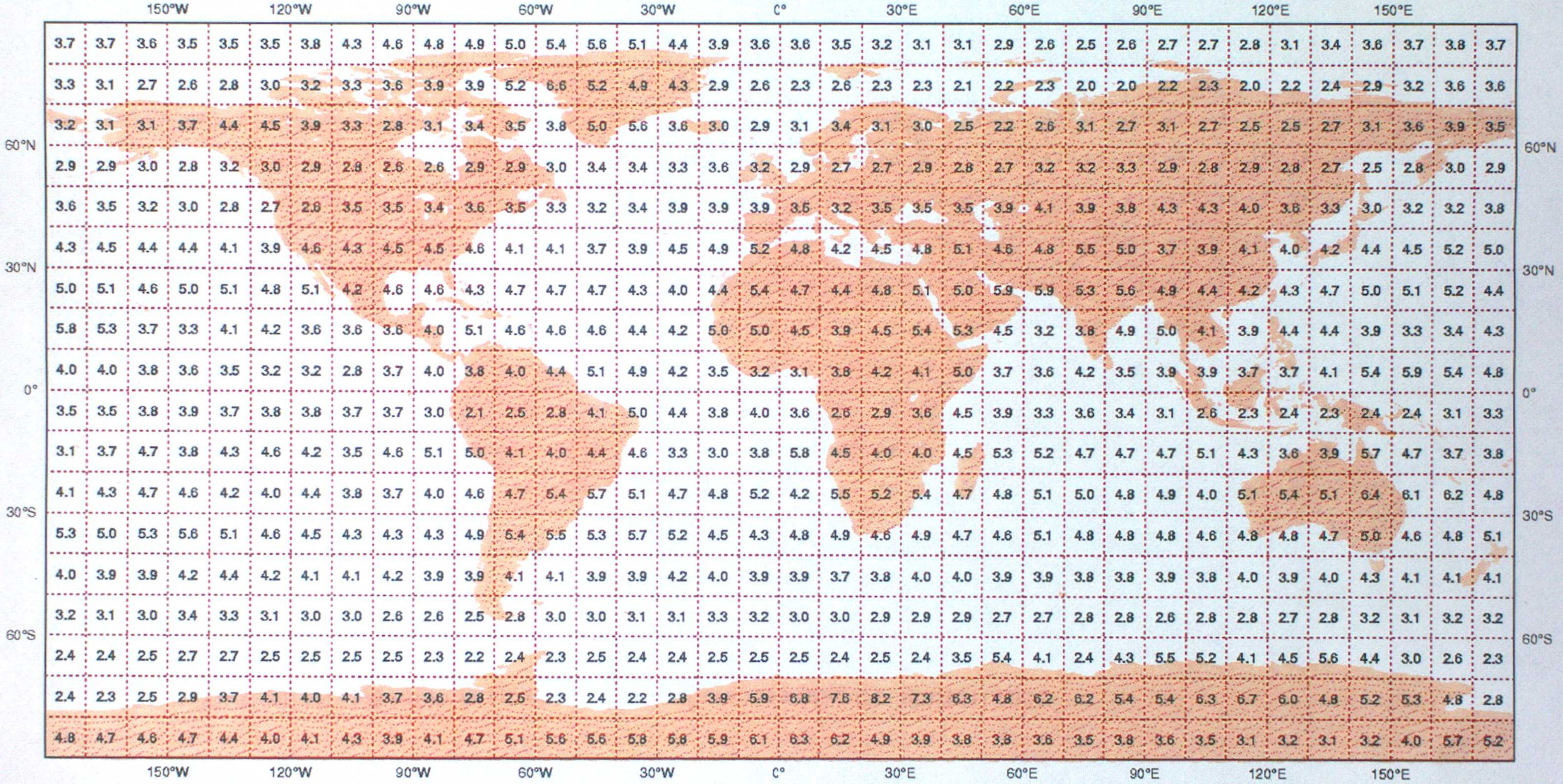
4.0	3.8	3.7	3.6	3.6	3.5	3.6	3.6	3.7	3.7	3.5	3.7	3.6	3.5	3.3	3.4	3.4	3.4	3.5	3.5	3.4	3.5	3.5	3.4	3.3	3.3	3.5	3.5	3.6	3.7	3.8	4.0	4.2	4.2	4.2	4.1
3.6	3.2	2.9	2.7	2.8	3.0	3.3	3.4	3.5	3.5	3.6	3.9	4.1	3.3	3.4	3.4	3.3	3.1	3.1	3.2	3.1	3.1	3.0	3.0	2.9	2.7	2.7	2.8	2.9	3.0	3.2	3.5	3.8	4.1	4.1	3.9
3.6	3.3	3.2	3.4	3.7	4.0	4.0	3.7	3.3	3.3	3.5	3.8	4.0	4.5	5.2	4.5	4.2	4.0	3.9	4.0	3.7	3.4	3.3	3.3	3.8	3.9	3.7	3.5	3.4	3.2	2.9	2.8	3.1	3.6	3.9	3.8
3.3	3.3	3.2	3.2	3.3	3.4	3.4	3.6	3.3	3.2	3.2	3.4	3.0	3.7	3.7	3.7	3.7	3.8	4.0	4.2	4.1	3.9	3.6	3.6	3.9	3.7	3.5	3.4	3.5	3.4	3.0	2.6	3.0	2.9	3.2	3.0
3.9	3.8	3.6	3.6	3.5	3.4	3.5	4.2	3.8	3.9	4.1	3.8	3.6	3.8	3.6	3.6	3.6	3.8	4.3	4.1	3.9	3.7	3.5	3.8	3.9	3.8	4.0	4.0	4.2	4.1	3.7	3.3	3.2	3.4	3.8	4.0
3.7	3.7	3.5	3.5	3.9	3.9	4.2	4.7	4.3	4.3	4.5	4.1	4.0	3.7	3.7	3.5	3.6	4.1	4.1	3.8	3.7	3.9	4.2	3.9	4.1	5.4	4.7	4.0	4.2	4.0	4.1	4.3	4.4	4.0	3.9	3.9
3.6	3.7	3.6	3.4	3.7	3.5	3.5	3.9	3.7	3.8	3.6	3.7	3.6	3.5	3.6	3.6	3.7	3.9	3.9	4.1	4.1	4.2	3.9	4.0	4.1	4.0	5.1	5.0	4.3	3.9	3.9	3.7	3.9	3.7	3.5	3.6
3.6	3.7	3.6	3.4	3.5	3.5	3.5	3.5	3.6	3.5	3.4	3.5	3.4	3.3	3.4	3.5	3.8	3.9	3.8	4.0	4.0	3.8	3.7	3.4	3.5	3.6	3.5	3.6	3.5	3.4	3.4	3.3	3.4	3.4	3.3	3.5
3.4	3.7	3.7	3.3	3.5	3.3	3.5	3.3	3.4	3.4	3.3	3.5	3.3	3.4	3.4	3.3	3.5	3.4	3.4	3.7	3.6	3.8	3.6	3.5	3.3	3.5	3.4	3.4	3.5	3.4	3.4	3.3	3.4	3.4	3.3	3.4
3.5	3.6	3.7	3.4	3.4	3.3	3.4	3.3	3.4	3.3	3.3	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.6	3.5	3.6	3.4	3.5	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.3
3.5	3.6	4.2	3.5	3.5	3.5	3.5	3.3	3.4	3.2	3.4	3.6	3.3	3.4	3.4	3.4	3.4	3.3	3.3	3.5	3.6	3.6	3.4	3.5	3.3	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.4
3.5	3.6	3.6	3.6	3.5	3.6	3.5	3.4	3.6	3.3	3.5	3.8	3.4	3.5	3.5	3.5	3.4	3.4	3.4	3.5	4.1	3.9	3.5	3.6	3.4	3.5	3.5	3.3	3.5	3.6	3.7	3.7	3.6	3.5	3.4	3.3
3.8	3.6	3.6	3.7	3.5	3.7	3.5	3.6	3.7	3.5	3.8	3.8	3.8	4.1	3.9	3.7	3.6	3.5	3.8	4.0	4.1	3.7	3.5	3.6	3.7	3.7	3.6	3.5	3.6	4.0	3.7	3.8	3.5	3.5	3.6	3.6
3.5	3.3	3.5	3.6	3.8	3.8	3.8	3.9	3.8	3.6	3.7	3.9	3.8	3.8	3.8	3.7	3.6	3.9	3.9	4.1	4.2	3.8	3.8	3.9	4.0	4.0	3.9	3.9	3.8	3.9	3.8	3.8	3.6	3.5	3.6	3.6
3.5	3.3	3.4	4.0	4.0	3.7	3.8	3.7	3.5	3.3	3.1	3.4	3.4	3.2	3.2	3.5	3.4	3.5	3.4	3.2	3.1	3.1	2.9	2.9	3.4	3.6	3.2	3.2	3.7	3.6	3.0	3.3	3.8	3.5	2.9	3.2
3.2	3.3	3.4	3.7	3.7	3.4	3.2	3.1	3.0	2.9	2.9	3.0	2.8	2.7	2.7	2.8	2.9	2.9	2.8	2.8	2.7	2.9	3.5	4.1	3.6	3.1	3.6	4.1	4.1	3.7	3.9	4.5	4.1	3.4	2.9	3.0
3.1	3.1	3.1	3.1	3.3	3.5	3.5	3.3	3.1	3.1	2.9	2.7	2.8	2.8	2.7	2.9	3.2	3.1	3.1	3.3	3.6	3.2	2.7	2.4	3.2	3.3	3.0	2.6	2.9	3.1	2.9	2.5	2.6	2.9	3.3	3.2
3.0	3.1	3.2	3.3	3.1	2.9	2.8	2.7	2.3	2.6	3.1	3.4	3.6	3.5	3.5	3.3	3.0	2.9	2.8	2.7	2.3	2.1	2.1	2.1	1.9	1.9	1.8	1.8	2.1	2.3	2.3	2.3	2.4	2.6	3.1	3.1

Figure 30. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



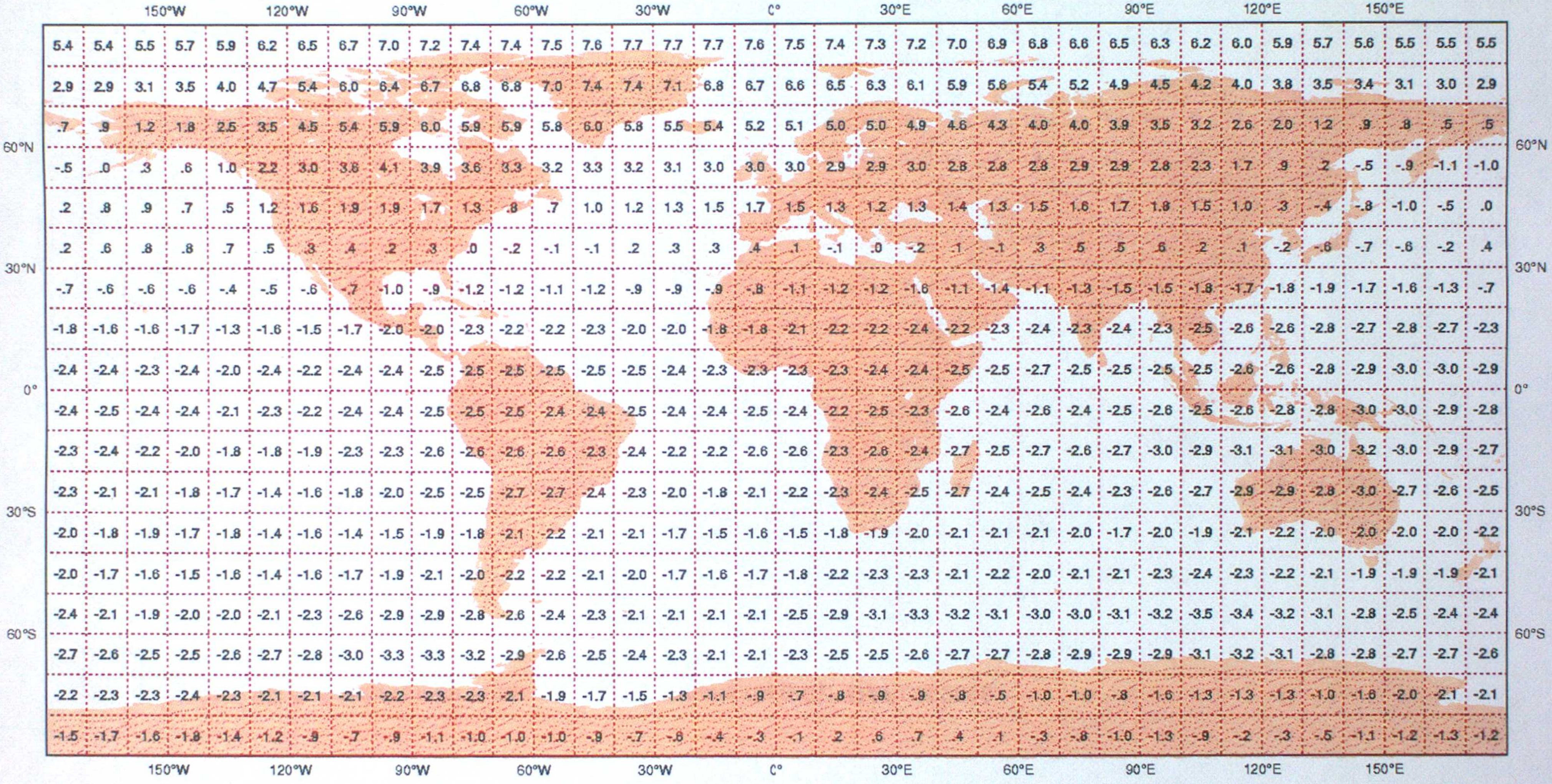
8.4	8.5	8.7	8.7	8.6	8.5	8.5	8.4	8.5	8.9	9.9	9.2	10.4	11.2	11.4	9.8	8.9	8.4	7.9	7.6	7.9	7.8	7.5	7.4	7.6	7.8	7.8	7.9	8.0	8.2	8.3	8.3	8.3	8.3	8.3	8.2
7.6	7.8	8.1	8.3	8.1	7.8	7.8	7.8	7.4	7.6	7.4	8.1	10.3	15.2	15.0	9.8	6.1	4.6	3.6	4.2	4.8	4.8	5.0	5.6	6.5	7.2	7.9	8.6	9.1	8.9	8.8	8.6	8.6	8.2	7.8	7.7
4.8	4.3	5.2	6.2	6.4	5.6	4.5	4.3	4.3	4.4	4.7	4.9	3.3	6.6	4.0	2.6	2.3	1.9	1.8	3.4	4.5	4.7	5.0	5.6	5.5	5.4	6.5	8.3	8.9	9.6	9.9	10.8	10.7	9.2	7.5	5.8
1.5	1.3	.8	.9	1.9	3.1	2.2	2.4	2.1	2.6	3.3	3.2	2.2	.7	-.8	-.1	.0	.5	1.1	1.7	2.3	2.9	2.9	2.7	2.2	2.2	3.3	5.1	5.8	7.2	7.6	7.6	5.0	4.0	2.9	1.5
-1.1	-1.0	-.7	-.3	.4	1.6	1.3	-.1	-.4	.0	.7	.9	.6	-.3	-1.2	-1.8	-2.0	-1.2	-.8	.2	.6	.2	-.6	-1.8	-2.2	-1.6	-.3	1.2	.7	2.0	2.6	3.0	2.5	1.2	.4	-.3
-4.6	-3.9	-3.9	-4.6	-3.6	-2.5	-3.3	-3.6	-4.3	-4.1	-4.5	-3.8	-3.4	-3.7	-4.1	-5.2	-6.5	-6.6	-6.7	-5.4	-4.2	-4.8	-5.2	-5.9	-4.1	-.6	.5	1.0	-2.0	-3.7	-3.0	-2.4	-2.4	-2.8	-3.9	-4.3
-9.1	-5.6	-3.8	-6.4	-7.5	-7.2	-7.8	-8.1	-9.0	-9.2	-10.2	-10.4	-9.4	-9.7	-10.4	-11.1	-12.8	-14.0	-13.1	-11.6	-11.7	-13.6	-10.0	-10.3	-11.0	-9.8	-7.9	-6.6	-7.1	-6.4	-6.8	-7.6	-8.7	-9.4	-10.1	-10.2
-11.3	-5.5	-3.6	-5.2	-6.7	-8.6	-9.7	-11.8	-13.3	-13.7	-12.0	-10.8	-11.7	-13.3	-13.6	-12.5	-10.8	-8.5	-9.5	-11.6	-12.5	-11.8	-10.8	-14.7	-15.5	-12.8	-10.8	-9.5	-8.1	-10.2	-9.9	-11.8	-13.3	-16.0	-16.2	-14.6
-6.5	-6.1	-6.9	-8.1	-9.1	-10.8	-11.2	-11.5	-10.3	-8.6	-4.1	-5.1	-6.0	-8.5	-8.9	-8.1	-6.1	-4.9	-4.8	-4.9	-5.0	-4.2	-10.8	-13.7	-12.2	-7.9	-5.1	-4.7	-5.6	-4.4	-3.6	-3.7	-5.1	-7.5	-9.3	-8.7
-4.3	-5.5	-6.6	-7.7	-8.1	-8.5	-7.9	-7.9	-7.1	-4.3	-2.0	-2.6	-2.4	-4.5	-7.8	-9.4	-9.7	-8.5	-5.0	-2.2	-2.7	-3.6	-7.5	-6.3	-6.1	-5.5	-4.6	-3.4	-2.7	-2.2	-2.5	-2.0	-2.3	-2.8	-4.5	-4.7
-5.5	-5.8	-6.6	-6.8	-7.9	-8.8	-10.5	-11.9	-11.3	-9.5	-5.5	-4.9	-4.7	-4.2	-9.0	-11.7	-14.2	-14.8	-12.4	-5.5	-5.5	-4.4	-6.5	-7.1	-7.9	-10.2	-10.0	-9.7	-7.4	-5.0	-4.3	-4.0	-6.3	-4.9	-4.5	-5.9
-5.6	-6.0	-5.5	-5.1	-5.9	-7.3	-9.1	-10.8	-12.8	-14.1	-15.4	-10.4	-9.3	-7.6	-4.8	-6.2	-9.5	-12.1	-14.1	-12.0	-7.2	-7.3	-8.2	-6.6	-7.7	-10.2	-10.4	-11.6	-12.8	-10.3	-8.7	-8.5	-9.5	-8.1	-7.4	-5.6
-6.0	-6.3	-6.7	-6.0	-6.6	-5.1	-5.6	-6.8	-7.2	-8.5	-10.0	-9.3	-8.2	-7.2	-7.5	-6.3	-6.5	-7.0	-8.1	-9.3	-8.2	-7.3	-7.6	-8.0	-7.8	-7.4	-7.9	-8.5	-8.6	-8.8	-8.9	-9.3	-9.1	-7.9	-7.4	-7.4
-3.2	-3.0	-3.3	-3.6	-4.0	-3.8	-4.0	-3.4	-3.1	-3.0	-2.3	-3.6	-3.8	-3.2	-3.4	-3.7	-3.6	-3.5	-2.9	-2.3	-2.3	-2.9	-3.0	-3.3	-3.3	-2.9	-2.8	-2.9	-2.5	-2.9	-3.0	-3.7	-3.9	-4.0	-3.7	-3.6
-.4	-.4	-.4	-.7	-.4	-.3	.1	.4	.3	.4	.8	.6	-.2	-.7	-.5	-.6	-.5	.2	.6	.8	1.2	1.1	1.0	.8	1.0	1.1	1.2	1.3	1.1	.9	.9	.4	.1	.0	-.3	-.4
2.2	2.3	2.1	2.2	2.1	2.1	2.0	1.9	1.9	1.8	2.0	2.5	2.0	1.6	1.6	1.6	1.8	2.0	2.1	2.5	2.9	3.4	4.8	6.6	5.3	4.0	5.5	6.6	6.2	5.1	5.3	5.9	4.6	3.1	2.3	2.5
4.1	4.3	4.7	4.7	5.7	6.2	6.0	5.9	6.5	6.2	5.5	5.9	4.6	3.9	3.8	4.8	6.7	11.0	14.4	15.4	14.8	17.2	21.5	23.4	16.0	15.9	21.2	22.7	23.6	22.6	23.5	24.1	21.5	18.0	8.4	4.8
10.3	10.1	10.0	10.7	11.0	11.5	12.9	15.3	17.5	14.2	11.3	10.1	10.4	10.8	11.8	14.0	16.1	18.0	19.8	21.7	24.9	27.5	28.6	28.6	28.4	28.2	28.9	29.2	29.1	27.8	25.8	23.9	21.8	18.3	12.8	10.9

Figure 31. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



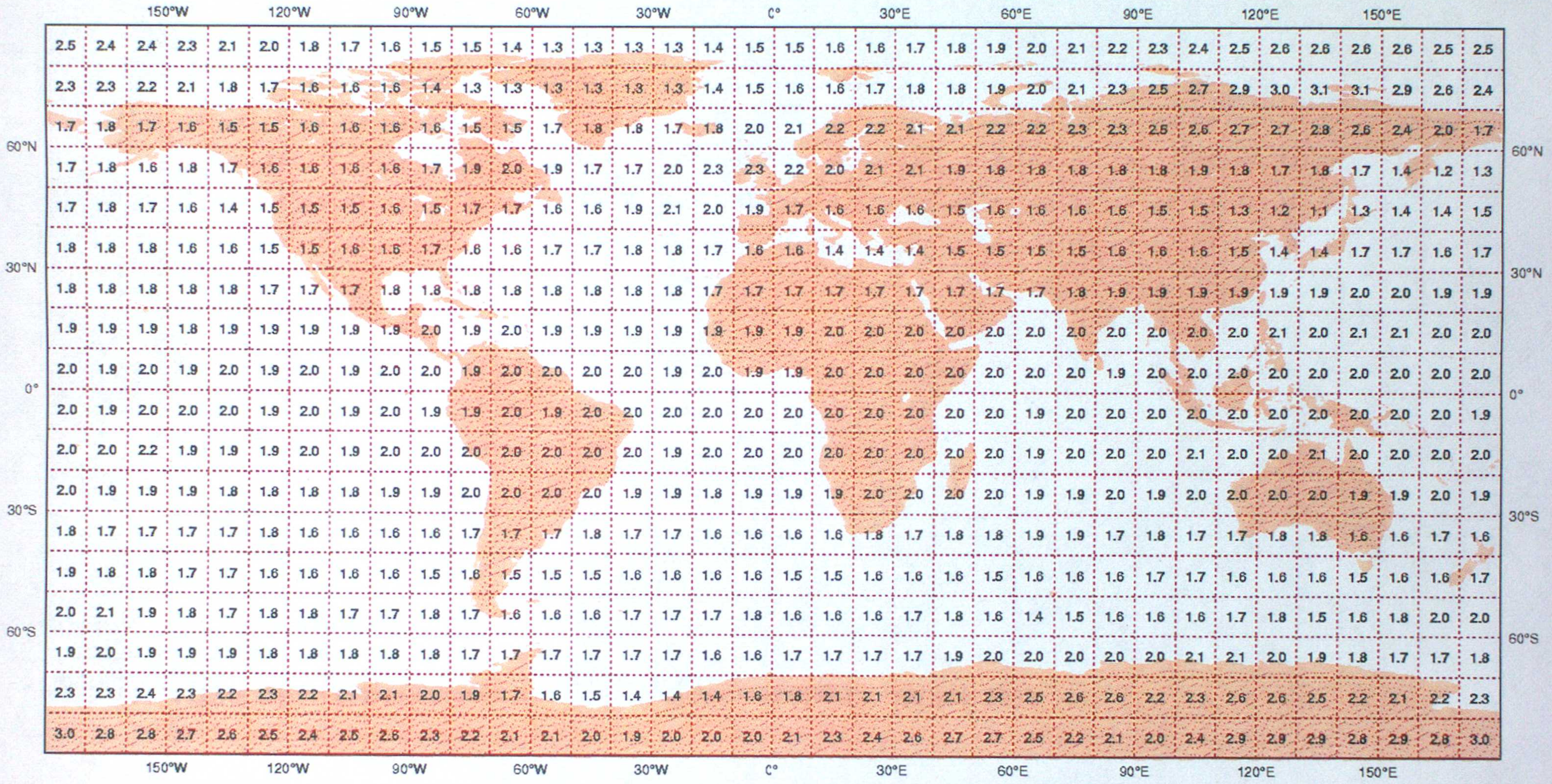
3.7	3.7	3.6	3.5	3.5	3.5	3.8	4.3	4.6	4.8	4.9	5.0	5.4	5.6	5.1	4.4	3.9	3.6	3.6	3.5	3.2	3.1	3.1	2.9	2.6	2.5	2.6	2.7	2.7	2.8	3.1	3.4	3.6	3.7	3.8	3.7
3.3	3.1	2.7	2.6	2.8	3.0	3.2	3.3	3.6	3.9	3.9	5.2	6.6	5.2	4.9	4.3	2.9	2.6	2.3	2.6	2.3	2.3	2.1	2.2	2.3	2.0	2.0	2.2	2.3	2.0	2.2	2.4	2.9	3.2	3.6	3.6
3.2	3.1	3.1	3.7	4.4	4.5	3.9	3.3	2.8	3.1	3.4	3.5	3.8	5.0	5.6	3.6	3.0	2.9	3.1	3.4	3.1	3.0	2.5	2.2	2.6	3.1	2.7	3.1	2.7	2.5	2.5	2.7	3.1	3.6	3.9	3.5
2.9	2.9	3.0	2.8	3.2	3.0	2.9	2.8	2.6	2.6	2.9	2.9	3.0	3.4	3.4	3.3	3.6	3.2	2.9	2.7	2.7	2.9	2.8	2.7	3.2	3.2	3.3	2.9	2.8	2.9	2.8	2.7	2.5	2.8	3.0	2.9
3.6	3.5	3.2	3.0	2.8	2.7	2.8	3.5	3.5	3.4	3.6	3.5	3.3	3.2	3.4	3.9	3.9	3.9	3.5	3.2	3.5	3.5	3.5	3.9	4.1	3.9	3.8	4.3	4.3	4.0	3.6	3.3	3.0	3.2	3.2	3.8
4.3	4.5	4.4	4.4	4.1	3.9	4.6	4.3	4.5	4.5	4.6	4.1	4.1	3.7	3.9	4.5	4.9	5.2	4.8	4.2	4.5	4.8	5.1	4.6	4.8	5.5	5.0	3.7	3.9	4.1	4.0	4.2	4.4	4.5	5.2	5.0
5.0	5.1	4.6	5.0	5.1	4.8	5.1	4.2	4.6	4.6	4.3	4.7	4.7	4.7	4.3	4.0	4.4	5.4	4.7	4.4	4.8	5.1	5.0	5.9	5.9	5.3	5.6	4.9	4.4	4.2	4.3	4.7	5.0	5.1	5.2	4.4
5.8	5.3	3.7	3.3	4.1	4.2	3.6	3.6	3.6	4.0	5.1	4.6	4.6	4.6	4.4	4.2	5.0	5.0	4.5	3.9	4.5	5.4	5.3	4.5	3.2	3.8	4.9	5.0	4.1	3.9	4.4	4.4	3.9	3.3	3.4	4.3
4.0	4.0	3.8	3.6	3.5	3.2	3.2	2.8	3.7	4.0	3.8	4.0	4.4	5.1	4.9	4.2	3.5	3.2	3.1	3.8	4.2	4.1	5.0	3.7	3.6	4.2	3.5	3.9	3.9	3.7	3.7	4.1	5.4	5.9	5.4	4.8
3.5	3.5	3.8	3.9	3.7	3.8	3.8	3.7	3.7	3.0	2.1	2.5	2.8	4.1	5.0	4.4	3.8	4.0	3.6	2.6	2.9	3.6	4.5	3.9	3.3	3.6	3.4	3.1	2.6	2.3	2.4	2.3	2.4	2.4	3.1	3.3
3.1	3.7	4.7	3.8	4.3	4.6	4.2	3.5	4.6	5.1	5.0	4.1	4.0	4.4	4.6	3.3	3.0	3.8	5.8	4.5	4.0	4.0	4.5	5.3	5.2	4.7	4.7	4.7	5.1	4.3	3.6	3.9	5.7	4.7	3.7	3.8
4.1	4.3	4.7	4.6	4.2	4.0	4.4	3.8	3.7	4.0	4.6	4.7	5.4	5.7	5.1	4.7	4.8	5.2	4.2	5.5	5.2	5.4	4.7	4.8	5.1	5.0	4.8	4.9	4.0	5.1	5.4	5.1	6.4	6.1	6.2	4.8
5.3	5.0	5.3	5.6	5.1	4.6	4.5	4.3	4.3	4.3	4.9	5.4	5.5	5.3	5.7	5.2	4.5	4.3	4.8	4.9	4.6	4.9	4.7	4.6	5.1	4.8	4.8	4.8	4.6	4.8	4.8	4.7	5.0	4.6	4.8	5.1
4.0	3.9	3.9	4.2	4.4	4.2	4.1	4.1	4.2	3.9	3.9	4.1	4.1	3.9	3.9	4.2	4.0	3.9	3.9	3.7	3.8	4.0	4.0	3.9	3.9	3.8	3.8	3.9	3.8	4.0	3.9	4.0	4.3	4.1	4.1	4.1
3.2	3.1	3.0	3.4	3.3	3.1	3.0	3.0	2.6	2.6	2.5	2.8	3.0	3.0	3.1	3.1	3.3	3.2	3.0	3.0	2.9	2.9	2.9	2.7	2.7	2.8	2.8	2.6	2.8	2.8	2.7	2.8	3.2	3.1	3.2	3.2
2.4	2.4	2.5	2.7	2.7	2.5	2.5	2.5	2.5	2.3	2.2	2.4	2.3	2.5	2.4	2.4	2.5	2.5	2.5	2.4	2.5	2.4	3.5	5.4	4.1	2.4	4.3	5.5	5.2	4.1	4.5	5.6	4.4	3.0	2.6	2.3
2.4	2.3	2.5	2.9	3.7	4.1	4.0	4.1	3.7	3.6	2.8	2.5	2.3	2.4	2.2	2.8	3.9	5.9	6.8	7.6	8.2	7.3	6.3	4.8	6.2	6.2	5.4	5.4	6.3	6.7	6.0	4.8	5.2	5.3	4.8	2.8
4.8	4.7	4.6	4.7	4.4	4.0	4.1	4.3	3.9	4.1	4.7	5.1	5.6	5.6	5.8	5.8	5.9	6.1	6.3	6.2	4.9	3.9	3.8	3.8	3.6	3.5	3.8	3.6	3.5	3.1	3.2	3.1	3.2	4.0	5.7	5.2

Figure 32. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



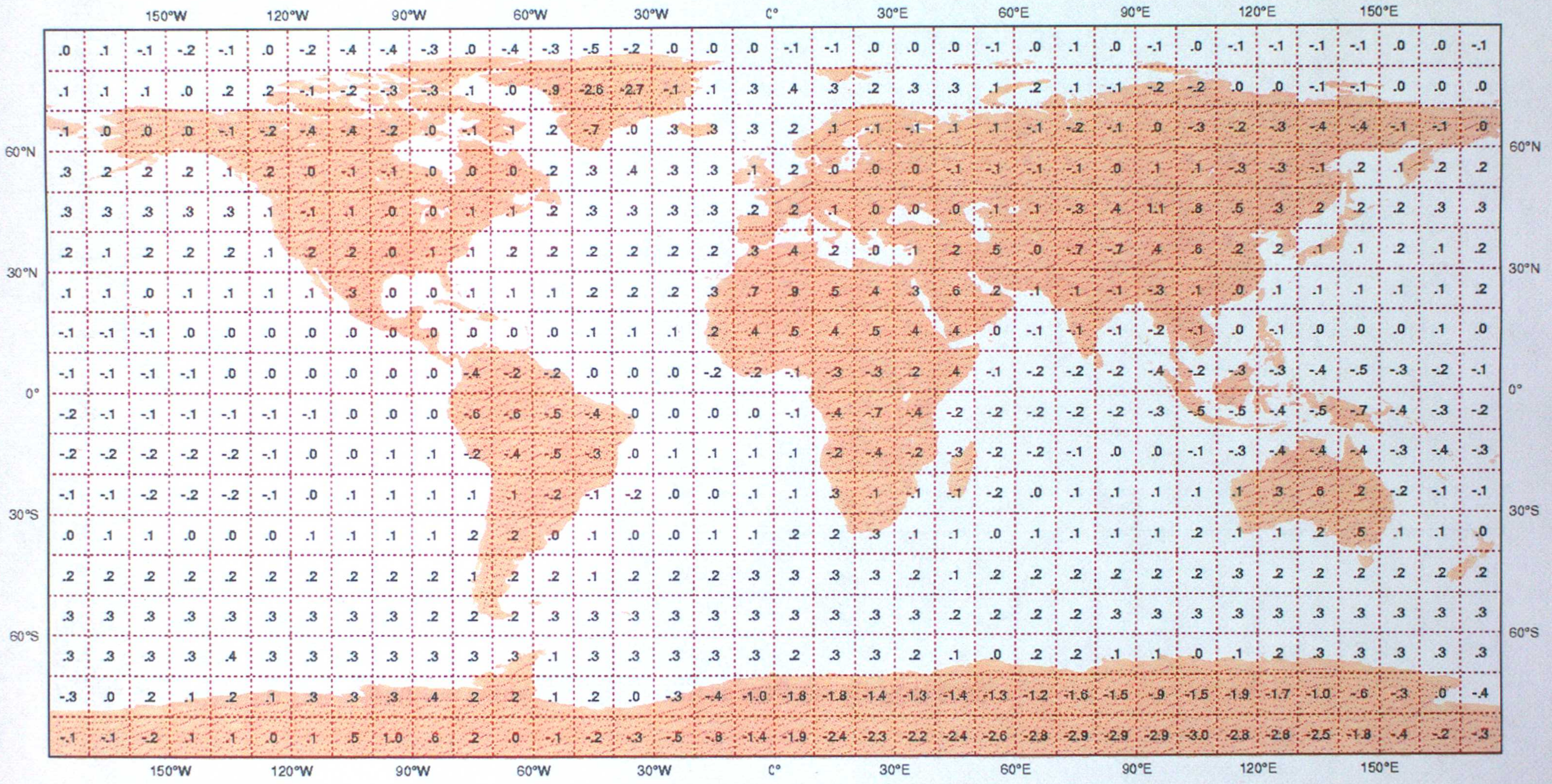
5.4	5.4	5.5	5.7	5.9	6.2	6.5	6.7	7.0	7.2	7.4	7.4	7.5	7.6	7.7	7.7	7.7	7.6	7.5	7.4	7.3	7.2	7.0	6.9	6.8	6.6	6.5	6.3	6.2	6.0	5.9	5.7	5.6	5.5	5.5	5.5
2.9	2.9	3.1	3.5	4.0	4.7	5.4	6.0	6.4	6.7	6.8	6.8	7.0	7.4	7.4	7.1	6.8	6.7	6.6	6.5	6.3	6.1	5.9	5.6	5.4	5.2	4.9	4.5	4.2	4.0	3.8	3.5	3.4	3.1	3.0	2.9
.7	.9	1.2	1.8	2.5	3.5	4.5	5.4	5.9	6.0	5.9	5.9	5.8	6.0	5.8	5.5	5.4	5.2	5.1	5.0	5.0	4.9	4.6	4.3	4.0	4.0	3.9	3.5	3.2	2.6	2.0	1.2	.9	.8	.5	.5
-.5	.0	.3	.6	1.0	2.2	3.0	3.8	4.1	3.9	3.6	3.3	3.2	3.3	3.2	3.1	3.0	3.0	3.0	2.9	2.9	3.0	2.8	2.8	2.8	2.9	2.9	2.8	2.3	1.7	.9	.2	-.5	-.9	-1.1	-1.0
.2	.8	.9	.7	.5	1.2	1.6	1.9	1.9	1.7	1.3	.8	.7	1.0	1.2	1.3	1.5	1.7	1.5	1.3	1.2	1.3	1.4	1.3	1.5	1.6	1.7	1.8	1.5	1.0	.3	-.4	-.8	-1.0	-.5	.0
.2	.6	.8	.8	.7	.5	.3	.4	.2	.3	.0	-.2	-.1	-.1	.2	.3	.3	.4	.1	-.1	.0	-.2	.1	-.1	.3	.5	.5	.6	.2	.1	-.2	-.6	-.7	-.6	-.2	.4
-.7	-.6	-.6	-.6	-.4	-.5	-.6	-.7	-1.0	-.9	-1.2	-1.2	-1.1	-1.2	-.9	-.9	-.9	-.8	-1.1	-1.2	-1.2	-1.6	-1.1	-1.4	-1.1	-1.3	-1.5	-1.5	-1.8	-1.7	-1.8	-1.9	-1.7	-1.6	-1.3	-.7
-1.8	-1.6	-1.6	-1.7	-1.3	-1.6	-1.5	-1.7	-2.0	-2.0	-2.3	-2.2	-2.2	-2.3	-2.0	-2.0	-1.8	-1.8	-2.1	-2.2	-2.2	-2.4	-2.2	-2.3	-2.4	-2.3	-2.4	-2.3	-2.5	-2.6	-2.6	-2.8	-2.7	-2.8	-2.7	-2.3
-2.4	-2.4	-2.3	-2.4	-2.0	-2.4	-2.2	-2.4	-2.4	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.4	-2.3	-2.3	-2.3	-2.3	-2.4	-2.4	-2.5	-2.5	-2.7	-2.5	-2.5	-2.5	-2.5	-2.6	-2.6	-2.8	-2.9	-3.0	-3.0	-2.9
-2.4	-2.5	-2.4	-2.4	-2.1	-2.3	-2.2	-2.4	-2.4	-2.5	-2.5	-2.5	-2.4	-2.4	-2.5	-2.4	-2.4	-2.5	-2.4	-2.2	-2.5	-2.3	-2.6	-2.4	-2.6	-2.4	-2.5	-2.6	-2.5	-2.6	-2.8	-2.8	-3.0	-3.0	-2.9	-2.8
-2.3	-2.4	-2.2	-2.0	-1.8	-1.8	-1.9	-2.3	-2.3	-2.6	-2.6	-2.6	-2.6	-2.3	-2.4	-2.2	-2.2	-2.6	-2.6	-2.3	-2.6	-2.4	-2.7	-2.5	-2.7	-2.6	-2.7	-3.0	-2.9	-3.1	-3.1	-3.0	-3.2	-3.0	-2.9	-2.7
-2.3	-2.1	-2.1	-1.8	-1.7	-1.4	-1.6	-1.8	-2.0	-2.5	-2.5	-2.7	-2.7	-2.4	-2.3	-2.0	-1.8	-2.1	-2.2	-2.3	-2.4	-2.5	-2.7	-2.4	-2.5	-2.4	-2.3	-2.6	-2.7	-2.9	-2.9	-2.8	-3.0	-2.7	-2.6	-2.5
-2.0	-1.8	-1.9	-1.7	-1.8	-1.4	-1.6	-1.4	-1.5	-1.9	-1.8	-2.1	-2.2	-2.1	-2.1	-1.7	-1.5	-1.6	-1.5	-1.8	-1.9	-2.0	-2.1	-2.1	-2.1	-2.0	-1.7	-2.0	-1.9	-2.1	-2.2	-2.0	-2.0	-2.0	-2.0	-2.2
-2.0	-1.7	-1.6	-1.5	-1.6	-1.4	-1.6	-1.7	-1.9	-2.1	-2.0	-2.2	-2.2	-2.1	-2.0	-1.7	-1.6	-1.7	-1.8	-2.2	-2.3	-2.3	-2.1	-2.2	-2.0	-2.1	-2.1	-2.3	-2.4	-2.3	-2.2	-2.1	-1.9	-1.9	-1.9	-2.1
-2.4	-2.1	-1.9	-2.0	-2.0	-2.1	-2.3	-2.6	-2.9	-2.9	-2.8	-2.6	-2.4	-2.3	-2.1	-2.1	-2.1	-2.1	-2.5	-2.9	-3.1	-3.3	-3.2	-3.1	-3.0	-3.0	-3.1	-3.2	-3.5	-3.4	-3.2	-3.1	-2.8	-2.5	-2.4	-2.4
-2.7	-2.6	-2.5	-2.5	-2.6	-2.7	-2.8	-3.0	-3.3	-3.3	-3.2	-2.9	-2.6	-2.5	-2.4	-2.3	-2.1	-2.1	-2.3	-2.5	-2.5	-2.6	-2.7	-2.7	-2.8	-2.9	-2.9	-2.9	-3.1	-3.2	-3.1	-2.8	-2.8	-2.7	-2.7	-2.6
-2.2	-2.3	-2.3	-2.4	-2.3	-2.1	-2.1	-2.1	-2.2	-2.3	-2.3	-2.1	-1.9	-1.7	-1.5	-1.3	-1.1	-.9	-.7	-.8	-.9	-.9	-.8	-.5	-1.0	-1.0	-.8	-1.6	-1.3	-1.3	-1.3	-1.0	-1.6	-2.0	-2.1	-2.1
-1.5	-1.7	-1.6	-1.8	-1.4	-1.2	-.9	-.7	-.9	-1.1	-1.0	-1.0	-1.0	-.9	-.7	-.8	-.4	-.3	-.1	.2	.6	.7	.4	.1	-.3	-.8	-1.0	-1.3	-.9	-.2	-.3	-.5	-1.1	-1.2	-1.3	-1.2

Figure 33. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



2.5	2.4	2.4	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.6	2.6	2.6	2.5	2.5
2.3	2.3	2.2	2.1	1.8	1.7	1.6	1.6	1.6	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.3	2.5	2.7	2.9	3.0	3.1	3.1	2.9	2.6	2.4
1.7	1.8	1.7	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.7	1.8	1.8	1.7	1.8	2.0	2.1	2.2	2.2	2.1	2.1	2.2	2.2	2.3	2.3	2.5	2.6	2.7	2.7	2.8	2.6	2.4	2.0	1.7
1.7	1.8	1.6	1.8	1.7	1.6	1.6	1.6	1.6	1.7	1.9	2.0	1.9	1.7	1.7	2.0	2.3	2.3	2.2	2.0	2.1	2.1	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.8	1.7	1.8	1.7	1.4	1.2	1.3
1.7	1.8	1.7	1.6	1.4	1.5	1.5	1.5	1.6	1.5	1.7	1.7	1.6	1.6	1.9	2.1	2.0	1.9	1.7	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.3	1.2	1.1	1.3	1.4	1.4	1.5
1.8	1.8	1.8	1.6	1.6	1.5	1.5	1.6	1.6	1.7	1.6	1.6	1.7	1.7	1.8	1.8	1.7	1.6	1.6	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.4	1.4	1.7	1.7	1.6	1.7
1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9
1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1	2.1	2.0	2.0
2.0	1.9	2.0	1.9	2.0	1.9	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	2.0	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
2.0	1.9	2.0	2.0	2.0	1.9	2.0	1.9	2.0	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9
2.0	2.0	2.2	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0
2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	2.0	1.9
1.8	1.7	1.7	1.7	1.7	1.8	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.8	1.7	1.8	1.8	1.9	1.9	1.7	1.8	1.7	1.7	1.8	1.8	1.6	1.6	1.7	1.6
1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.5	1.6	1.6	1.7
2.0	2.1	1.9	1.8	1.7	1.8	1.8	1.7	1.7	1.8	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.6	1.6	1.6	1.7	1.8	1.6	1.4	1.5	1.6	1.6	1.6	1.7	1.8	1.5	1.6	1.8	2.0	2.0
1.9	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	1.9	1.8	1.7	1.7	1.8
2.3	2.3	2.4	2.3	2.2	2.3	2.2	2.1	2.1	2.0	1.9	1.7	1.6	1.5	1.4	1.4	1.4	1.6	1.8	2.1	2.1	2.1	2.1	2.3	2.5	2.6	2.6	2.2	2.3	2.6	2.6	2.5	2.2	2.1	2.2	2.3
3.0	2.8	2.8	2.7	2.6	2.5	2.4	2.5	2.6	2.3	2.2	2.1	2.1	2.0	1.9	2.0	2.0	2.0	2.1	2.3	2.4	2.6	2.7	2.7	2.5	2.2	2.1	2.0	2.4	2.9	2.8	2.9	2.8	2.9	2.8	3.0

Figure 34. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



.0	.1	-.1	-.2	-.1	.0	-.2	-.4	-.4	-.3	.0	-.4	-.3	-.5	-.2	.0	.0	.0	-.1	-.1	.0	.0	.0	-.1	.0	.1	.0	-.1	.0	-.1	-.1	-.1	-.1	.0	.0	-.1
.1	.1	.1	.0	.2	.2	-.1	-.2	-.3	-.3	.1	.0	-.9	-2.6	-2.7	-.1	.1	.3	.4	.3	.2	.3	.3	.1	.2	.1	-.1	-.2	-.2	.0	.0	-.1	-.1	.0	.0	.0
.1	.0	.0	.0	-.1	-.2	-.4	-.4	-.2	.0	-.1	.1	.2	-.7	.0	.3	.3	.3	.2	.1	-.1	-.1	.1	.1	-.1	-.2	-.1	.0	-.3	-.2	-.3	-.4	-.4	-.1	-.1	.0
.3	.2	.2	.2	.1	.2	.0	-.1	-.1	.0	.0	.0	.2	.3	.4	.3	.3	.1	.2	.0	.0	.0	-.1	-.1	-.1	-.1	.0	.1	.1	-.3	-.3	-.1	.2	.1	.2	.2
.3	.3	.3	.3	.3	.1	-.1	.1	.0	.0	.1	.1	.2	.3	.3	.3	.3	.2	.2	.1	.0	.0	.0	.1	.1	-.3	.4	1.1	.8	.5	.3	.2	.2	.2	.3	.3
.2	.1	.2	.2	.2	.1	.2	.2	.0	.1	.1	.2	.2	.2	.2	.2	.2	.3	.4	.2	.0	.1	.2	.5	.0	-.7	-.7	.4	.6	.2	.2	.1	.1	.2	.1	.2
.1	.1	.0	.1	.1	.1	.1	.3	.0	.0	.1	.1	.1	.2	.2	.2	.3	.7	.9	.5	.4	.3	.6	.2	.1	.1	-.1	-.3	.1	.0	.1	.1	.1	.1	.1	.2
-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.2	.4	.5	.4	.5	.4	.4	.0	-.1	-.1	-.1	-.2	-.1	.0	-.1	.0	.0	.0	.1	.0
-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	-.4	-.2	-.2	.0	.0	.0	-.2	-.2	-.1	-.3	-.3	.2	.4	-.1	-.2	-.2	-.2	-.4	-.2	-.3	-.3	-.4	-.5	-.3	-.2	-.1
-.2	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	-.6	-.6	-.5	-.4	.0	.0	.0	.0	-.1	-.4	-.7	-.4	-.2	-.2	-.2	-.2	-.2	-.3	-.5	-.5	-.4	-.5	-.7	-.4	-.3	-.2
-.2	-.2	-.2	-.2	-.2	-.1	.0	.0	.1	.1	-.2	-.4	-.5	-.3	.0	.1	.1	.1	.1	-.2	-.4	-.2	-.3	-.2	-.2	-.1	.0	.0	-.1	-.3	-.4	-.4	-.4	-.3	-.4	-.3
-.1	-.1	-.2	-.2	-.2	-.1	.0	.1	.1	.1	.1	.1	-.2	-.1	-.2	.0	.0	.1	.1	.3	.1	-.1	-.1	-.2	.0	.1	.1	.1	.1	.1	.3	.6	.2	-.2	-.1	-.1
.0	.1	.1	.0	.0	.0	.1	.1	.1	.1	.2	.2	.0	.1	.0	.0	.1	.1	.2	.2	.3	.1	.1	.0	.1	.1	.1	.1	.2	.1	.1	.2	.5	.1	.1	.0
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.1	.2	.2	.2	.3	.3	.3	.3	.2	.1	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.2
.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.1	.3	.3	.3	.3	.3	.2	.3	.3	.2	.1	.0	.2	.2	.1	.1	.0	.1	.2	.3	.3	.3	.3	.3
-.3	.0	.2	.1	.2	.1	.3	.3	.3	.4	.2	.2	.1	.2	.0	-.3	-.4	-1.0	-1.8	-1.8	-1.4	-1.3	-1.4	-1.3	-1.2	-1.6	-1.5	-.9	-1.5	-1.9	-1.7	-1.0	-.6	-.3	.0	-.4
-.1	-.1	-.2	.1	.1	.0	.1	.5	1.0	.6	.2	.0	-.1	-.2	-.3	-.5	-.8	-1.4	-1.9	-2.4	-2.3	-2.2	-2.4	-2.6	-2.8	-2.9	-2.9	-2.9	-3.0	-2.8	-2.8	-2.5	-1.8	-.4	-.2	-.3

Figure 35. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations

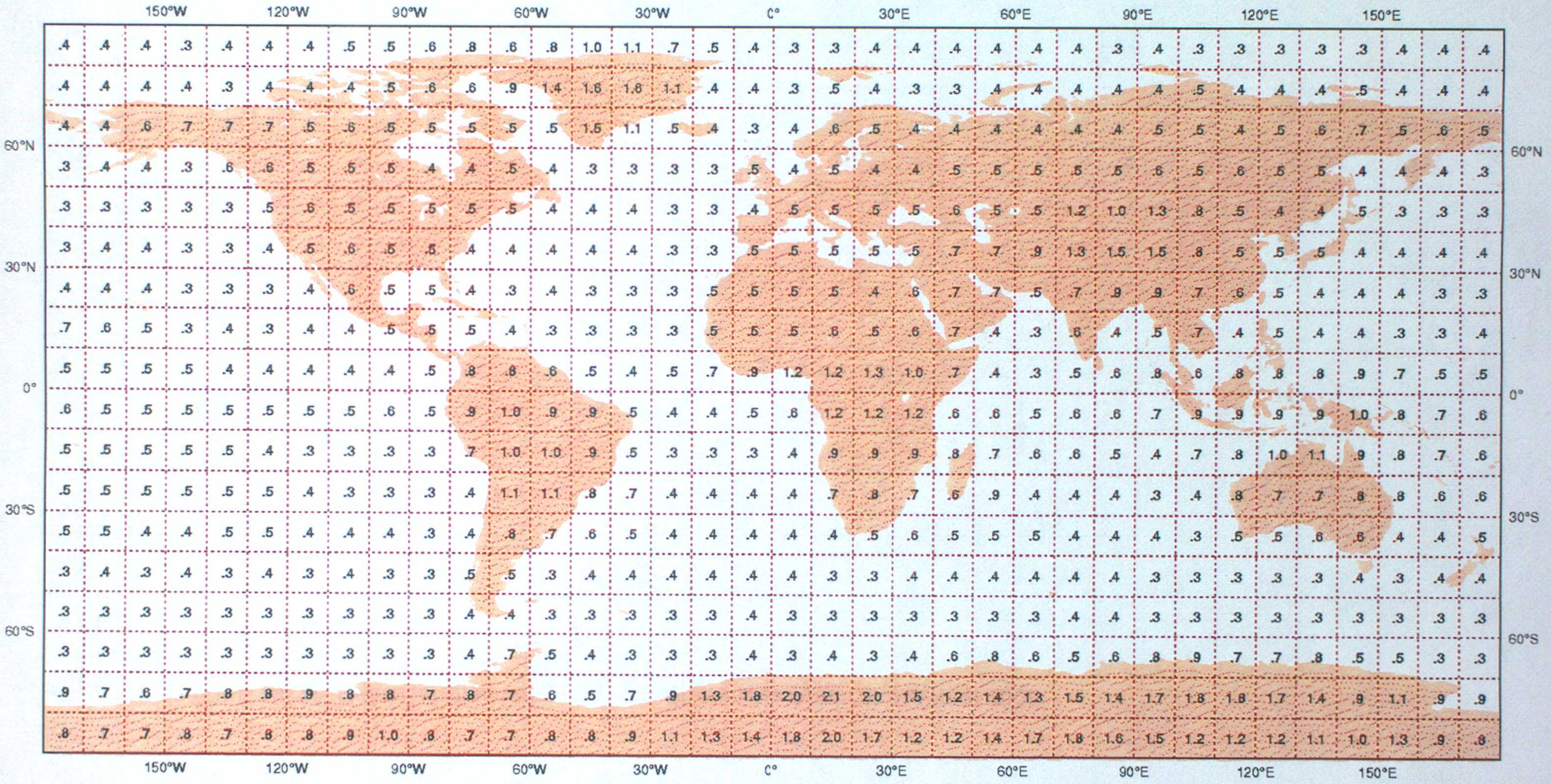
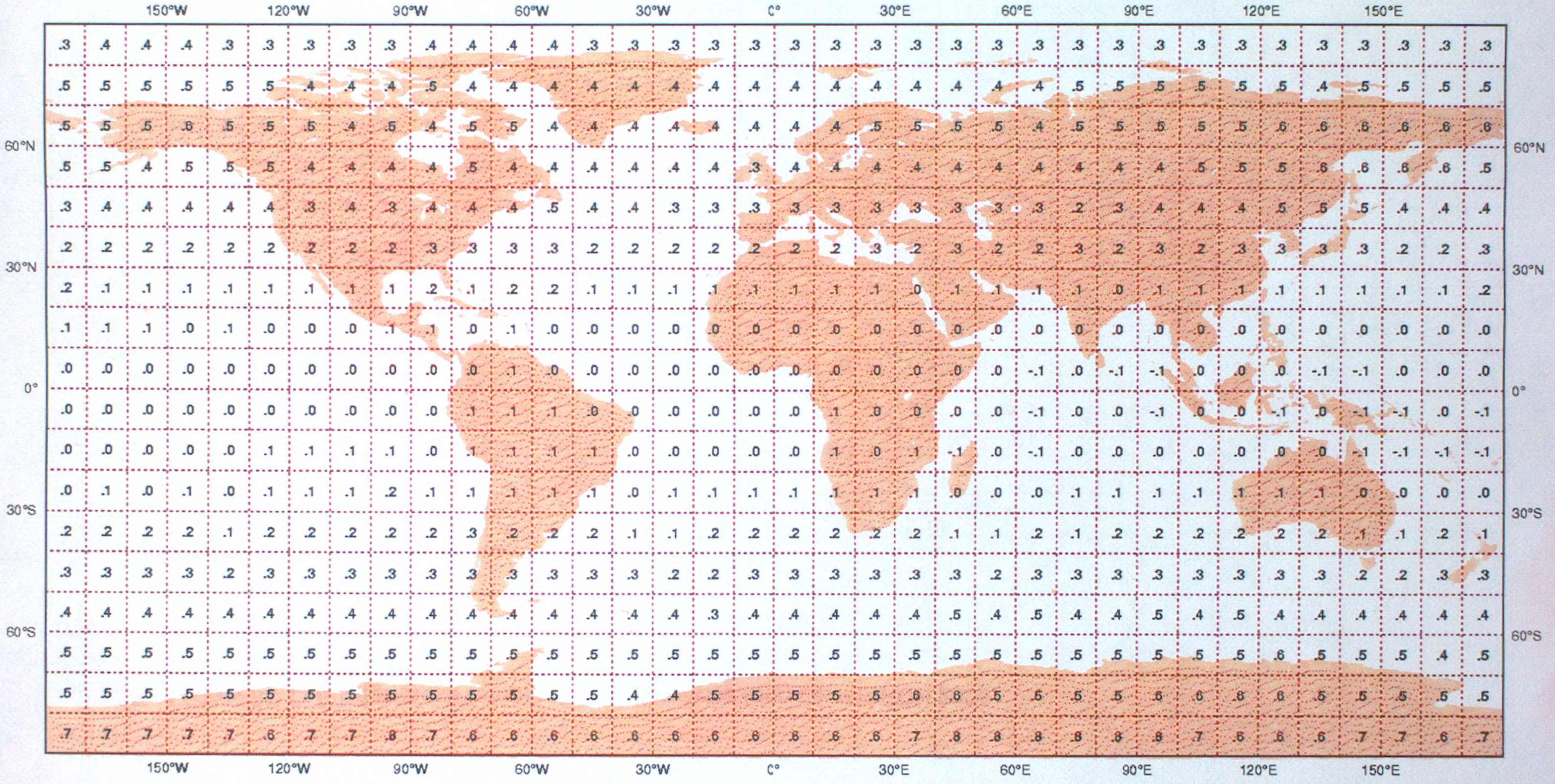

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.4 .4 .4 .3 .4 .4 .4 .5 .5 .6 .8 .6 .8 1.0 1.1 .7 .5 .4 .3 .3 .4 .4 .4 .4 .4 .4 .3 .4 .3 .3 .3 .3 .3 .4 .4 .4
.4 .4 .4 .4 .3 .4 .4 .4 .5 .6 .6 .9 1.4 1.6 1.6 1.1 .4 .4 .3 .5 .4 .3 .3 .4 .4 .4 .4 .4 .5 .4 .4 .4 .5 .4 .4 .4
.4 .4 .6 .7 .7 .7 .5 .6 .5 .5 .5 .5 .5 1.5 1.1 .5 .4 .3 .4 .6 .5 .4 .4 .4 .4 .4 .4 .5 .5 .4 .5 .6 .7 .5 .6 .5
.3 .4 .4 .3 .6 .6 .5 .5 .5 .4 .4 .5 .4 .3 .3 .3 .3 .5 .4 .5 .4 .4 .5 .5 .5 .5 .5 .6 .5 .6 .5 .5 .4 .4 .4 .3
.3 .3 .3 .3 .3 .5 .6 .5 .5 .5 .5 .5 .4 .4 .4 .3 .3 .4 .5 .5 .5 .5 .6 .5 .5 1.2 1.0 1.3 .8 .5 .4 .4 .5 .3 .3 .3
.3 .4 .4 .3 .3 .4 .5 .6 .5 .5 .4 .4 .4 .4 .4 .3 .3 .5 .5 .5 .5 .5 .7 .7 .9 1.3 1.5 1.5 .8 .5 .5 .5 .4 .4 .4 .4
.4 .4 .4 .3 .3 .3 .4 .6 .5 .5 .4 .3 .4 .3 .3 .3 .5 .5 .5 .5 .4 .6 .7 .7 .5 .7 .9 .9 .7 .6 .5 .4 .4 .4 .3 .3
.7 .6 .5 .3 .4 .3 .4 .4 .5 .5 .5 .4 .3 .3 .3 .3 .5 .5 .5 .6 .5 .6 .7 .4 .3 .6 .4 .5 .7 .4 .5 .4 .4 .3 .3 .4
.5 .5 .5 .5 .4 .4 .4 .4 .4 .5 .8 .8 .6 .5 .4 .5 .7 .9 1.2 1.2 1.3 1.0 .7 .4 .3 .5 .6 .8 .6 .8 .8 .8 .9 .7 .5 .5
.6 .5 .5 .5 .5 .5 .5 .5 .6 .5 .9 1.0 .9 .9 .5 .4 .4 .5 .6 1.2 1.2 1.2 .6 .6 .5 .6 .6 .7 .9 .9 .9 .9 1.0 .8 .7 .6
.5 .5 .5 .5 .5 .4 .3 .3 .3 .3 .7 1.0 1.0 .9 .5 .3 .3 .3 .4 .9 .9 .9 .8 .7 .6 .6 .5 .4 .7 .8 1.0 1.1 .9 .8 .7 .6
.5 .5 .5 .5 .5 .5 .4 .3 .3 .3 .4 1.1 1.1 .8 .7 .4 .4 .4 .4 .7 .8 .7 .6 .9 .4 .4 .4 .3 .4 .8 .7 .7 .8 .8 .6 .6
.5 .5 .4 .4 .5 .5 .4 .4 .4 .3 .4 .8 .7 .6 .5 .4 .4 .4 .4 .4 .5 .6 .5 .5 .5 .4 .4 .4 .3 .5 .5 .6 .6 .4 .4 .5
.3 .4 .3 .4 .3 .4 .3 .4 .3 .3 .5 .5 .3 .4 .4 .4 .4 .4 .4 .3 .3 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .4 .3 .4 .4
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .7 .5 .4 .3 .3 .3 .4 .3 .4 .3 .4 .6 .8 .6 .5 .6 .8 .9 .7 .7 .8 .5 .5 .3 .3
.9 .7 .6 .7 .8 .8 .9 .8 .8 .7 .8 .7 .6 .5 .7 .9 1.3 1.8 2.0 2.1 2.0 1.5 1.2 1.4 1.3 1.5 1.4 1.7 1.8 1.8 1.7 1.4 .9 1.1 .9 .9
.8 .7 .7 .8 .7 .8 .8 .9 1.0 .8 .7 .7 .8 .8 .9 1.1 1.3 1.4 1.8 2.0 1.7 1.2 1.2 1.4 1.7 1.8 1.6 1.5 1.2 1.2 1.2 1.1 1.0 1.3 .9 .8

Figure 36. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations



.3	.4	.4	.4	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.5	.5	.5	.5	.5	.5	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.4	.5	.5	.5	.5
.5	.5	.5	.6	.5	.5	.5	.4	.5	.4	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.4	.5	.5	.5	.5	.5	.6	.6	.6	.6	.6	.6
.5	.5	.4	.5	.5	.5	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.6	.6	.6	.6	.5
.3	.4	.4	.4	.4	.4	.3	.4	.3	.4	.4	.4	.5	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.4	.4	.4	.5	.5	.5	.4	.4	.4
.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.3	.2	.3	.2	.2	.3	.2	.3	.2	.3	.3	.3	.3	.2	.2	.3
.2	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.2
.1	.1	.1	.0	.1	.0	.0	.0	.1	.1	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	-.1	-.1	.0	.0	.0	-.1	-.1	.0	.0	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	-.1	.0	.0	-.1	.0	.0	-.1	.0	-.1	-.1	.0	-.1
.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.1	.0	.1	-.1	.0	-.1	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1
.0	.1	.0	.1	.0	.1	.1	.1	.2	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0
.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.3	.2	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.1	.1	.2	.1	.2	.2	.2	.2	.2	.2	.1	.1	.2	.1
.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.5	.4	.5	.4	.4	.5	.4	.5	.4	.4	.4	.4	.4	.4
.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.6	.5	.5	.5	.4	.5
.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.5	.5	.5	.6	.6	.5	.5	.5	.5	.6	.6	.6	.6	.5	.5	.5	.5	.5
.7	.7	.7	.7	.7	.6	.7	.7	.8	.7	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.8	.8	.8	.8	.8	.8	.7	.6	.6	.6	.7	.7	.6	.7

Figure 37. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations

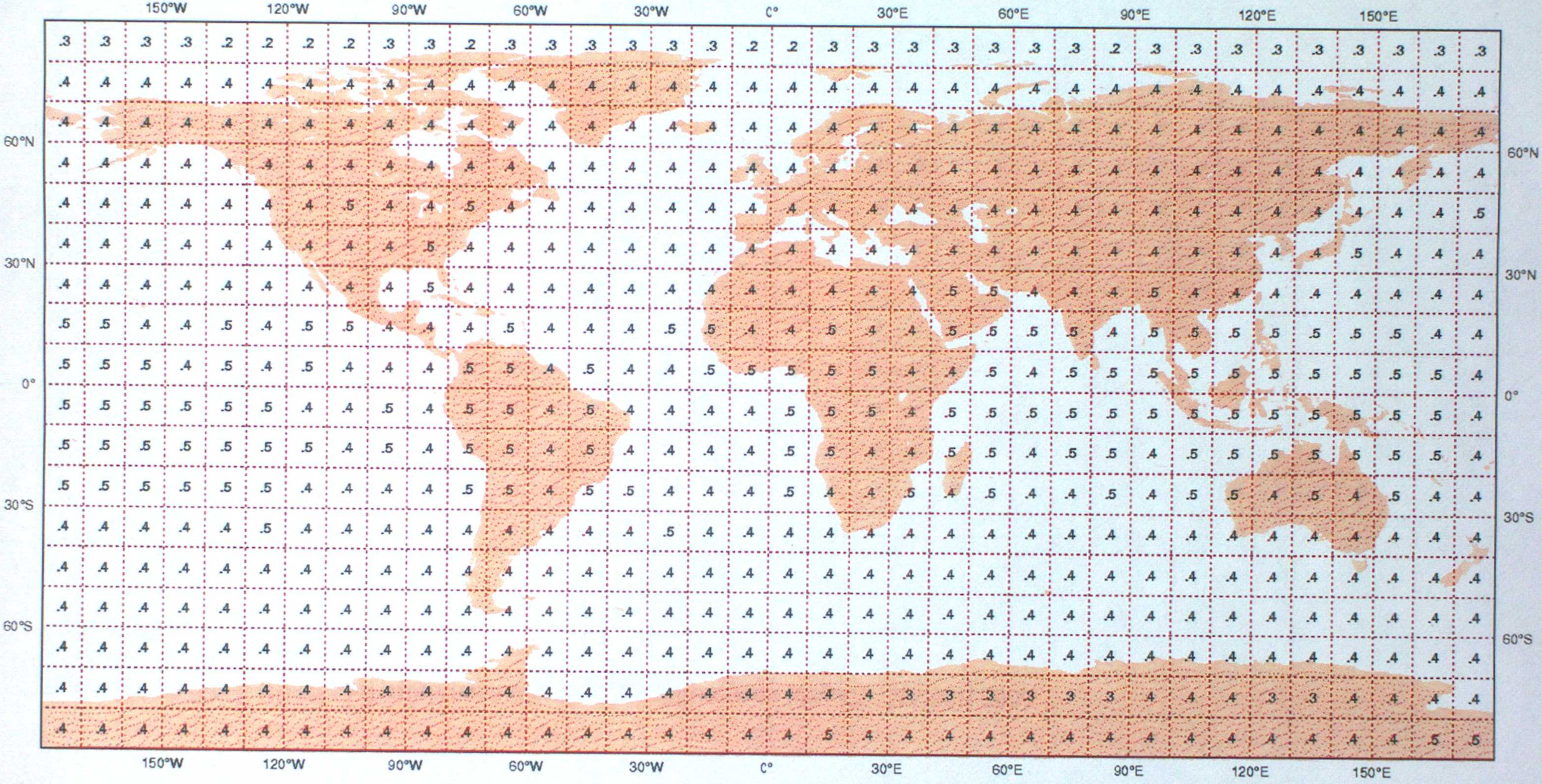
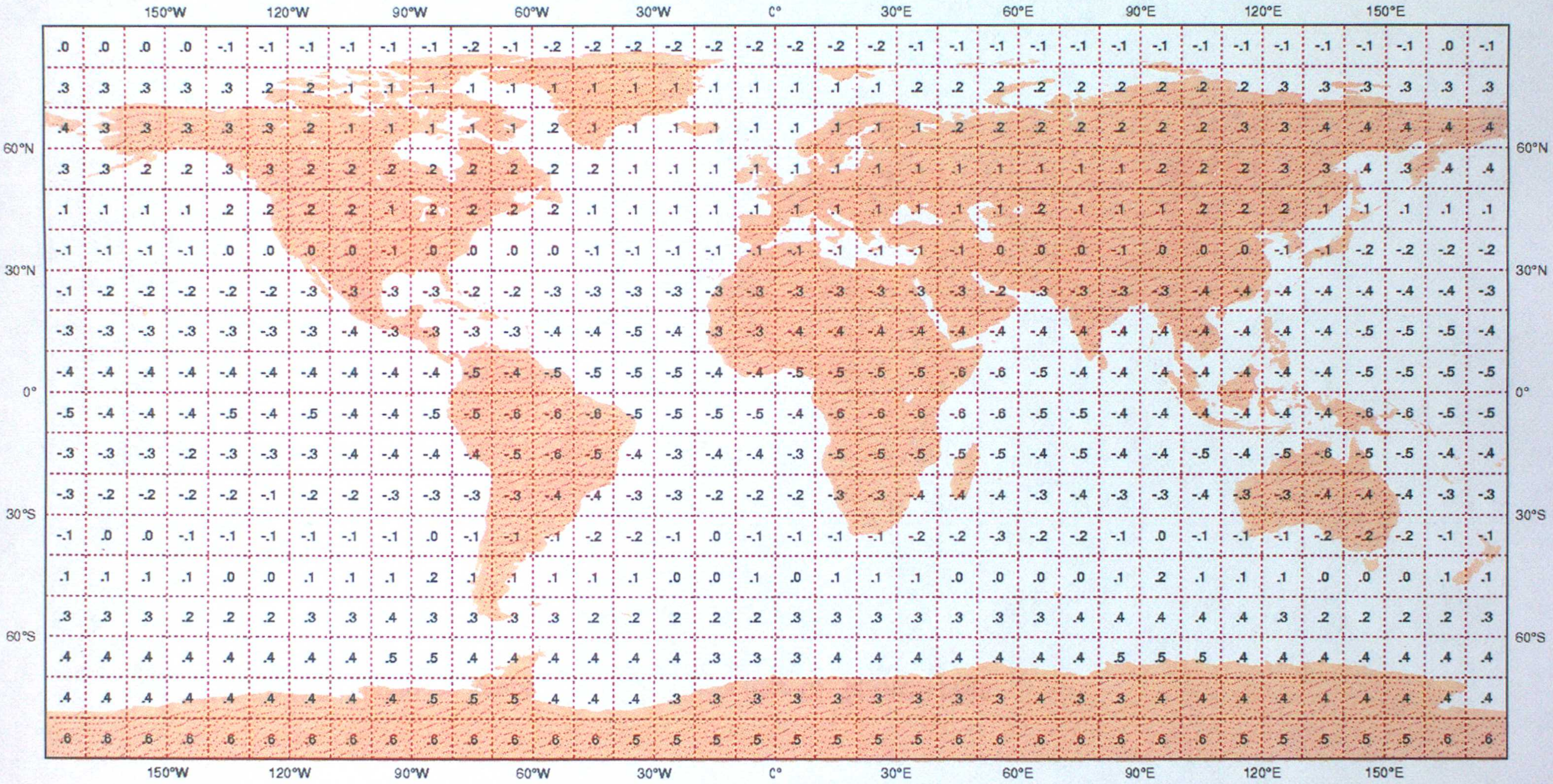

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .2 .2 .2 .2 .3 .3 .2 .3 .3 .3 .3 .3 .3 .2 .2 .3 .3 .3 .3 .3 .3 .3 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5
.4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4
.5 .5 .4 .4 .5 .4 .5 .5 .4 .4 .4 .5 .4 .4 .4 .5 .5 .4 .4 .5 .4 .4 .5 .5 .5 .5 .4 .5 .5 .5 .5 .5 .5 .5 .4 .4
.5 .5 .5 .4 .5 .4 .5 .4 .4 .4 .5 .5 .4 .5 .4 .4 .5 .5 .5 .5 .5 .4 .4 .5 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4
.5 .5 .5 .5 .5 .5 .4 .4 .5 .4 .5 .5 .4 .5 .4 .4 .4 .4 .5 .5 .5 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .4
.5 .5 .5 .5 .5 .5 .5 .4 .5 .4 .5 .5 .4 .5 .4 .4 .4 .4 .5 .5 .4 .4 .5 .5 .4 .5 .5 .4 .5 .5 .5 .5 .5 .5 .5 .4
.5 .5 .5 .5 .5 .5 .4 .4 .4 .4 .5 .5 .4 .5 .5 .4 .4 .4 .5 .4 .4 .5 .4 .5 .4 .4 .5 .4 .5 .5 .4 .5 .4 .5 .4 .4
.4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .4 .4 .4 .3 .3 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5

Figure 38. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations



.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.1
.3	.3	.3	.3	.3	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3
.4	.3	.3	.3	.3	.3	.2	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.3	.3	.4	.4	.4	.4	.4
.3	.3	.2	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.3	.3	.4	.3	.4	.4
.1	.1	.1	.1	.2	.2	.2	.2	.1	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.2	.2	.2	.1	.1	.1	.1	.1
-.1	-.1	-.1	-.1	.0	.0	.0	.0	-.1	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	-.1	.0	.0	.0	-.1	-.1	-.2	-.2	-.2	-.2
-.1	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3
-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.5	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4
-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5
-.5	-.4	-.4	-.4	-.5	-.4	-.5	-.4	-.4	-.5	-.5	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.4	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.6	-.6	-.5	-.5
-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.5	-.6	-.5	-.4	-.3	-.4	-.4	-.3	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.4	-.4	-.5	-.4	-.5	-.6	-.5	-.5	-.4	-.4
-.3	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.4	-.4	-.4	-.3	-.4	-.3	-.3	-.4	-.3	-.3	-.4	-.4	-.4	-.3	-.3
-.1	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	-.2	-.2	-.1	.0	-.1	-.1	-.1	-.1	-.2	-.2	-.3	-.2	-.2	-.1	.0	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.1
.1	.1	.1	.1	.0	.0	.1	.1	.1	.2	.1	.1	.1	.1	.1	.0	.0	.1	.0	.1	.1	.1	.0	.0	.0	.0	.1	.2	.1	.1	.1	.0	.0	.0	.1	.1
.3	.3	.3	.2	.2	.2	.3	.3	.4	.3	.3	.3	.3	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.3	.2	.2	.2	.2	.3
.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4
.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5	.6	.6

Figure 39. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations

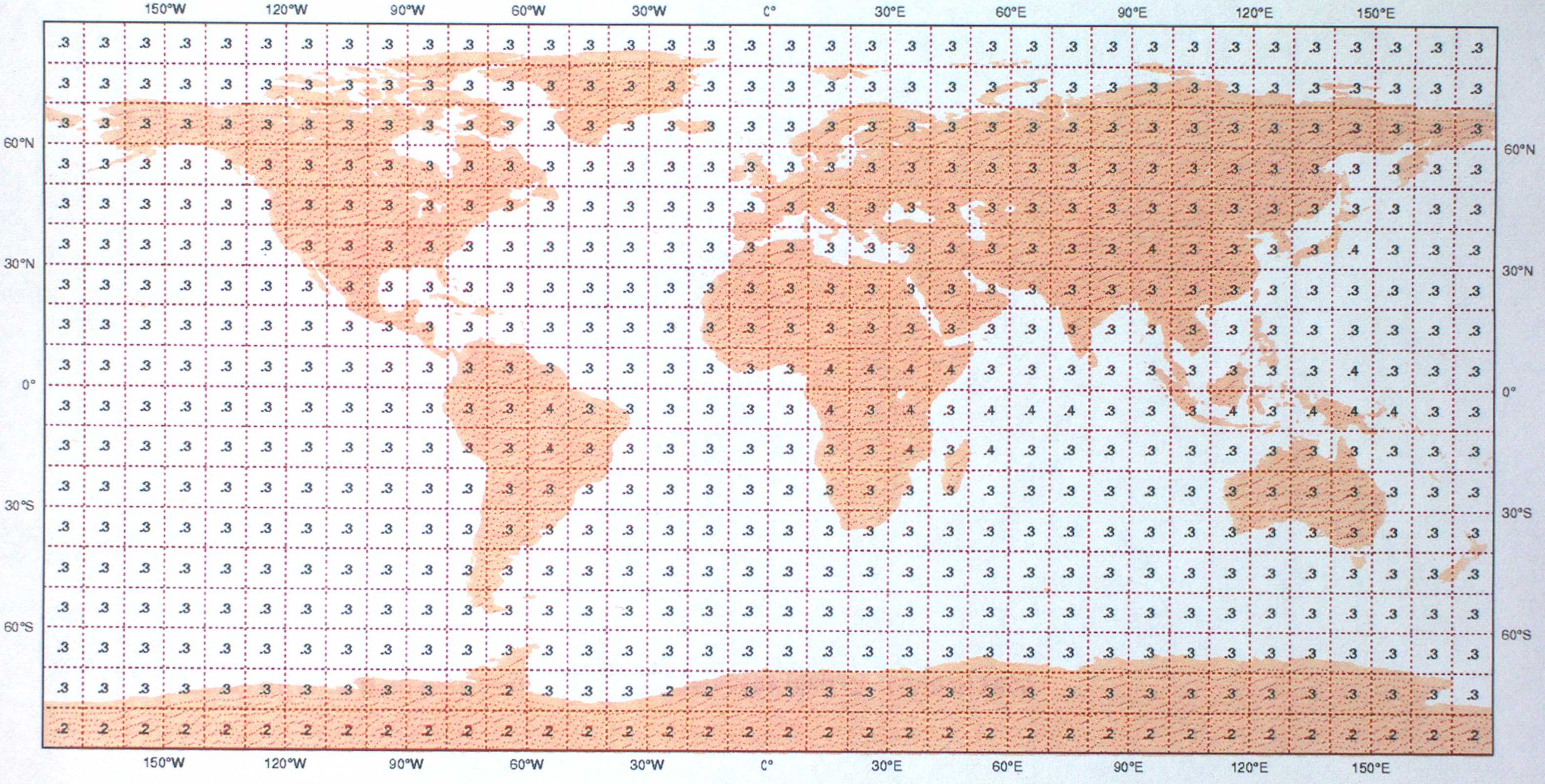
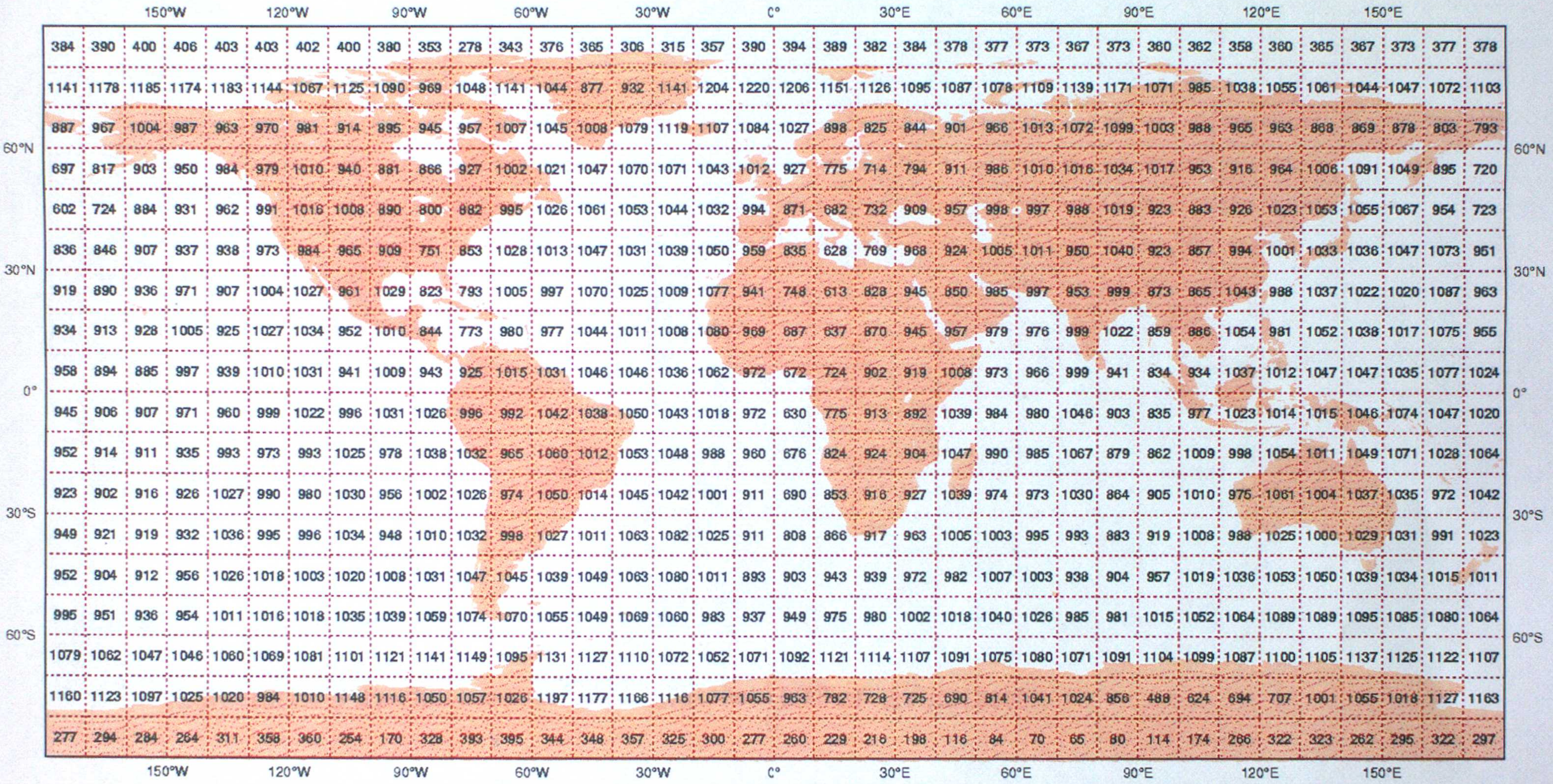
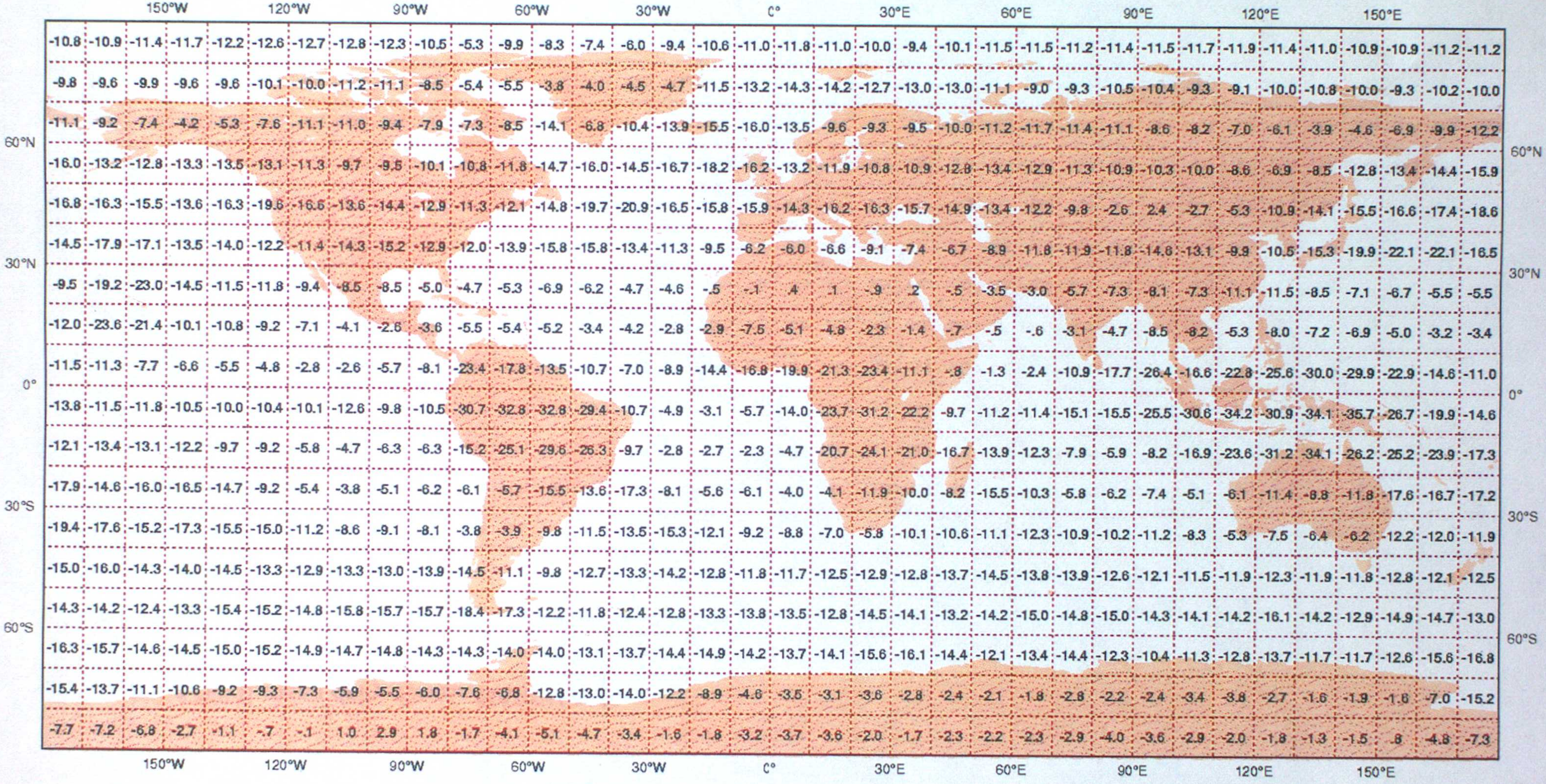

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .4 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .4 .3 .4 .3 .4 .4 .4 .3 .3 .3 .4 .3 .4 .4 .4 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .2 .3 .3 .3 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2

Figure 40. ATOVS mean daily count. MARCH 2006
NOAA16, using all observations
Global average number of observations in 24 hours = 590218



384	390	400	406	403	403	402	400	380	353	278	343	376	365	306	315	357	390	394	389	382	384	378	377	373	367	373	360	362	358	360	365	367	373	377	378
1141	1178	1185	1174	1183	1144	1067	1125	1090	969	1048	1141	1044	877	932	1141	1204	1220	1206	1151	1126	1095	1087	1078	1109	1139	1171	1071	985	1038	1055	1061	1044	1047	1072	1103
887	967	1004	987	963	970	981	914	895	945	957	1007	1045	1008	1079	1119	1107	1084	1027	898	825	844	901	966	1013	1072	1099	1003	988	965	963	868	869	878	803	793
697	817	903	950	984	979	1010	940	881	866	927	1002	1021	1047	1070	1071	1043	1012	927	775	714	794	911	986	1010	1016	1034	1017	953	916	964	1006	1091	1049	895	720
602	724	884	931	962	991	1016	1008	890	800	882	995	1026	1061	1053	1044	1032	994	871	682	732	909	957	998	997	988	1019	923	883	926	1023	1053	1055	1067	954	723
836	846	907	937	938	973	984	965	909	751	853	1028	1013	1047	1031	1039	1050	959	835	628	769	968	924	1005	1011	950	1040	923	857	994	1001	1033	1036	1047	1073	951
919	890	936	971	907	1004	1027	961	1029	823	793	1005	997	1070	1025	1009	1077	941	748	613	828	945	850	985	997	953	999	873	865	1043	988	1037	1022	1020	1087	963
934	913	928	1005	925	1027	1034	952	1010	844	773	980	977	1044	1011	1008	1080	969	687	637	870	945	957	979	976	999	1022	859	886	1054	981	1052	1038	1017	1075	955
958	894	885	997	939	1010	1031	941	1009	943	925	1015	1031	1046	1046	1036	1062	972	672	724	902	919	1008	973	966	999	941	834	934	1037	1012	1047	1047	1035	1077	1024
945	906	907	971	960	999	1022	996	1031	1026	996	992	1042	1038	1050	1043	1018	972	630	775	913	892	1039	984	980	1046	903	835	977	1023	1014	1015	1046	1074	1047	1020
952	914	911	935	993	973	993	1025	978	1038	1032	965	1060	1012	1053	1048	988	960	676	824	924	904	1047	990	985	1067	879	862	1009	998	1054	1011	1049	1071	1028	1064
923	902	916	926	1027	990	980	1030	956	1002	1026	974	1050	1014	1045	1042	1001	911	690	853	916	927	1039	974	973	1030	864	905	1010	975	1061	1004	1037	1035	972	1042
949	921	919	932	1036	995	996	1034	948	1010	1032	998	1027	1011	1063	1082	1025	911	808	866	917	963	1005	1003	995	993	883	919	1008	988	1025	1000	1029	1031	991	1023
952	904	912	956	1026	1018	1003	1020	1008	1031	1047	1045	1039	1049	1063	1080	1011	893	903	943	939	972	982	1007	1003	938	904	957	1019	1036	1053	1050	1039	1034	1015	1011
995	951	936	954	1011	1016	1018	1035	1039	1059	1074	1070	1055	1049	1069	1060	983	937	949	975	980	1002	1018	1040	1026	985	981	1015	1052	1064	1089	1089	1095	1085	1080	1064
1079	1062	1047	1046	1060	1069	1081	1101	1121	1141	1149	1095	1131	1127	1110	1072	1052	1071	1092	1121	1114	1107	1091	1075	1080	1071	1091	1104	1099	1087	1100	1105	1137	1125	1122	1107
1160	1123	1097	1025	1020	984	1010	1148	1116	1050	1057	1026	1197	1177	1166	1116	1077	1055	963	782	728	725	690	814	1041	1024	856	488	624	694	707	1001	1055	1018	1127	1163
277	294	284	264	311	358	360	254	170	328	393	395	344	348	357	325	300	277	260	229	216	198	116	84	70	65	80	114	174	266	322	323	262	295	322	297

Figure 41. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS8 (Surface)
NOAA16, using all observations

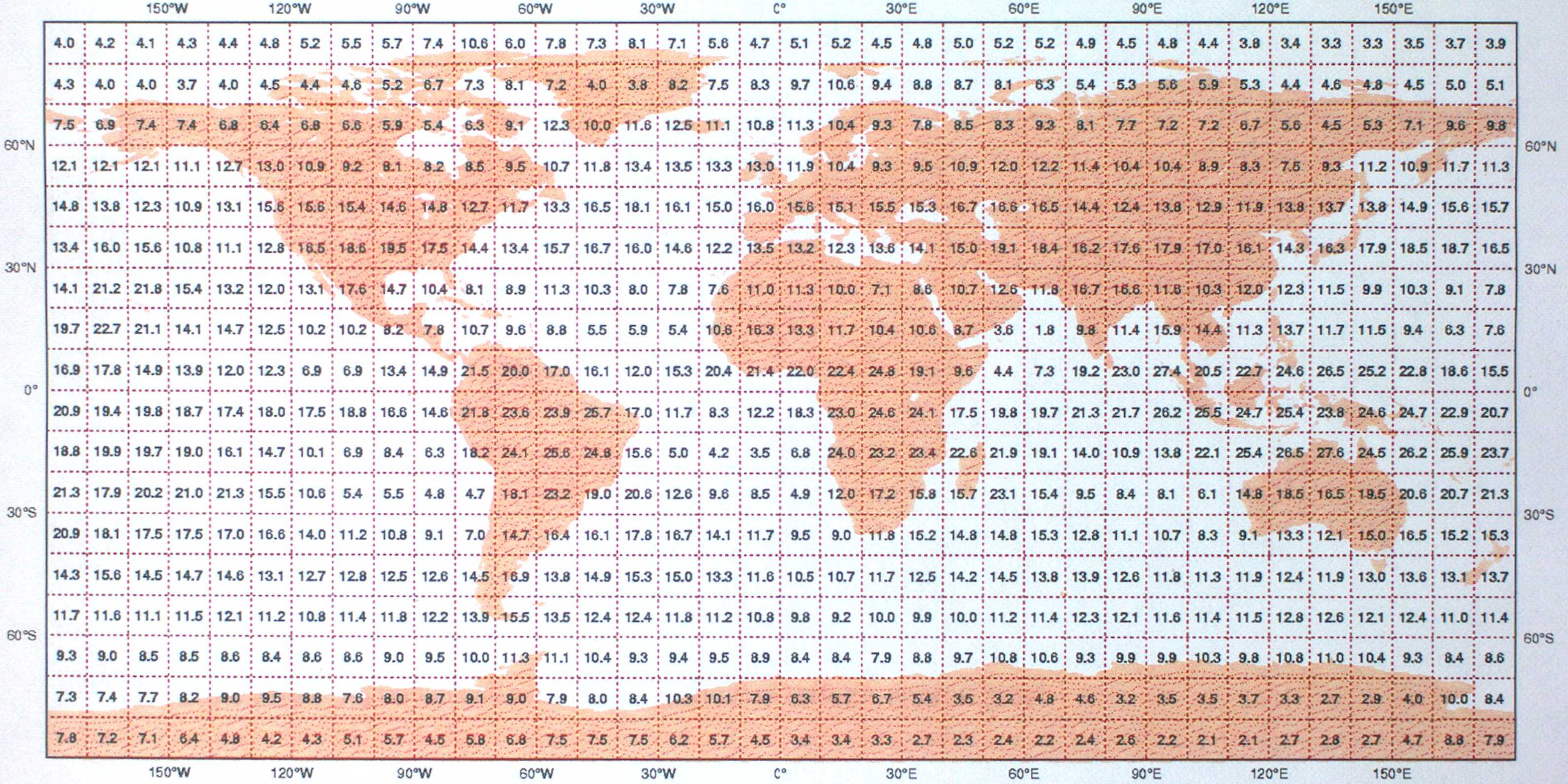


-10.8	-10.9	-11.4	-11.7	-12.2	-12.6	-12.7	-12.8	-12.3	-10.5	-5.3	-9.9	-8.3	-7.4	-6.0	-9.4	-10.6	-11.0	-11.8	-11.0	-10.0	-9.4	-10.1	-11.5	-11.5	-11.2	-11.4	-11.5	-11.7	-11.9	-11.4	-11.0	-10.9	-10.9	-11.2	-11.2
-9.8	-9.6	-9.9	-9.6	-9.6	-10.1	-10.0	-11.2	-11.1	-8.5	-5.4	-5.5	-3.8	-4.0	-4.5	-4.7	-11.5	-13.2	-14.3	-14.2	-12.7	-13.0	-13.0	-11.1	-9.0	-9.3	-10.5	-10.4	-9.3	-9.1	-10.0	-10.8	-10.0	-9.3	-10.2	-10.0
-11.1	-9.2	-7.4	-4.2	-5.3	-7.6	-11.1	-11.0	-9.4	-7.9	-7.3	-8.5	-14.1	-6.8	-10.4	-13.9	-15.5	-16.0	-13.5	-9.6	-9.3	-9.5	-10.0	-11.2	-11.7	-11.4	-11.1	-8.6	-8.2	-7.0	-6.1	-3.9	-4.6	-6.9	-9.9	-12.2
-16.0	-13.2	-12.8	-13.3	-13.5	-13.1	-11.3	-9.7	-9.5	-10.1	-10.8	-11.8	-14.7	-16.0	-14.5	-16.7	-18.2	-16.2	-13.2	-11.9	-10.8	-10.9	-12.8	-13.4	-12.9	-11.3	-10.9	-10.3	-10.0	-8.6	-6.9	-8.5	-12.8	-13.4	-14.4	-15.9
-16.8	-16.3	-15.5	-13.6	-16.3	-19.6	-16.6	-13.6	-14.4	-12.9	-11.3	-12.1	-14.8	-19.7	-20.9	-16.5	-15.8	-15.9	-14.3	-16.2	-16.3	-15.7	-14.9	-13.4	-12.2	-9.8	-2.6	2.4	-2.7	-5.3	-10.9	-14.1	-15.5	-16.6	-17.4	-18.6
-14.5	-17.9	-17.1	-13.5	-14.0	-12.2	-11.4	-14.3	-15.2	-12.9	-12.0	-13.9	-15.8	-15.8	-13.4	-11.3	-9.5	-6.2	-6.0	-6.6	-9.1	-7.4	-6.7	-8.9	-11.8	-11.9	-11.8	-14.6	-13.1	-9.9	-10.5	-15.3	-19.9	-22.1	-22.1	-16.5
-9.5	-19.2	-23.0	-14.5	-11.5	-11.8	-9.4	-8.5	-8.5	-5.0	-4.7	-5.3	-6.9	-6.2	-4.7	-4.6	-.5	-.1	.4	.1	-.9	.2	-.5	-3.5	-3.0	-5.7	-7.3	-8.1	-7.3	-11.1	-11.5	-8.5	-7.1	-6.7	-5.5	-5.5
-12.0	-23.6	-21.4	-10.1	-10.8	-9.2	-7.1	-4.1	-2.6	-3.6	-5.5	-5.4	-5.2	-3.4	-4.2	-2.8	-2.9	-7.5	-5.1	-4.8	-2.3	-1.4	-.7	-.5	-.6	-3.1	-4.7	-8.5	-8.2	-5.3	-8.0	-7.2	-6.9	-5.0	-3.2	-3.4
-11.5	-11.3	-7.7	-6.6	-5.5	-4.8	-2.8	-2.6	-5.7	-8.1	-23.4	-17.8	-13.5	-10.7	-7.0	-8.9	-14.4	-16.8	-19.9	-21.3	-23.4	-11.1	-.8	-1.3	-2.4	-10.9	-17.7	-26.4	-16.6	-22.8	-25.6	-30.0	-29.9	-22.9	-14.6	-11.0
-13.8	-11.5	-11.8	-10.5	-10.0	-10.4	-10.1	-12.6	-9.8	-10.5	-30.7	-32.8	-32.8	-29.4	-10.7	-4.9	-3.1	-5.7	-14.0	-23.7	-31.2	-22.2	-9.7	-11.2	-11.4	-15.1	-15.5	-25.5	-30.6	-34.2	-30.9	-34.1	-35.7	-26.7	-19.9	-14.6
-12.1	-13.4	-13.1	-12.2	-9.7	-9.2	-5.8	-4.7	-6.3	-6.3	-15.2	-25.1	-29.6	-26.3	-9.7	-2.8	-2.7	-2.3	-4.7	-20.7	-24.1	-21.0	-16.7	-13.9	-12.3	-7.9	-5.9	-8.2	-16.9	-23.6	-31.2	-34.1	-26.2	-25.2	-23.9	-17.3
-17.9	-14.6	-16.0	-16.5	-14.7	-9.2	-5.4	-3.8	-5.1	-6.2	-6.1	-5.7	-15.5	-13.6	-17.3	-8.1	-5.6	-6.1	-4.0	-4.1	-11.9	-10.0	-8.2	-15.5	-10.3	-5.8	-6.2	-7.4	-5.1	-6.1	-11.4	-8.8	-11.8	-17.6	-16.7	-17.2
-19.4	-17.6	-15.2	-17.3	-15.5	-15.0	-11.2	-8.6	-9.1	-8.1	-3.8	-3.9	-9.8	-11.5	-13.5	-15.3	-12.1	-9.2	-8.8	-7.0	-5.8	-10.1	-10.6	-11.1	-12.3	-10.9	-10.2	-11.2	-8.3	-5.3	-7.5	-6.4	-6.2	-12.2	-12.0	-11.9
-15.0	-16.0	-14.3	-14.0	-14.5	-13.3	-12.9	-13.3	-13.0	-13.9	-14.5	-11.1	-9.8	-12.7	-13.3	-14.2	-12.8	-11.8	-11.7	-12.5	-12.9	-12.8	-13.7	-14.5	-13.8	-13.9	-12.6	-12.1	-11.5	-11.9	-12.3	-11.9	-11.8	-12.8	-12.1	-12.5
-14.3	-14.2	-12.4	-13.3	-15.4	-15.2	-14.8	-15.8	-15.7	-15.7	-18.4	-17.3	-12.2	-11.8	-12.4	-12.8	-13.3	-13.8	-13.5	-12.8	-14.5	-14.1	-13.2	-14.2	-15.0	-14.8	-15.0	-14.3	-14.1	-14.2	-16.1	-14.2	-12.9	-14.9	-14.7	-13.0
-16.3	-15.7	-14.6	-14.5	-15.0	-15.2	-14.9	-14.7	-14.8	-14.3	-14.3	-14.0	-14.0	-13.1	-13.7	-14.4	-14.9	-14.2	-13.7	-14.1	-15.6	-16.1	-14.4	-12.1	-13.4	-14.4	-12.3	-10.4	-11.3	-12.8	-13.7	-11.7	-11.7	-12.6	-15.6	-16.8
-15.4	-13.7	-11.1	-10.6	-9.2	-9.3	-7.3	-5.9	-5.5	-6.0	-7.6	-6.8	-12.8	-13.0	-14.0	-12.2	-8.9	-4.6	-3.5	-3.1	-3.6	-2.8	-2.4	-2.1	-1.8	-2.8	-2.2	-2.4	-3.4	-3.8	-2.7	-1.6	-1.9	-1.6	-7.0	-15.2
-7.7	-7.2	-6.8	-2.7	-1.1	-.7	-.1	1.0	2.9	1.8	-1.7	-4.1	-5.1	-4.7	-3.4	-1.6	-1.8	-3.2	-3.7	-3.6	-2.0	-1.7	-2.3	-2.2	-2.3	-2.9	-4.0	-3.6	-2.9	-2.0	-1.8	-1.3	-1.5	.8	-4.8	-7.3

Figure 42. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006

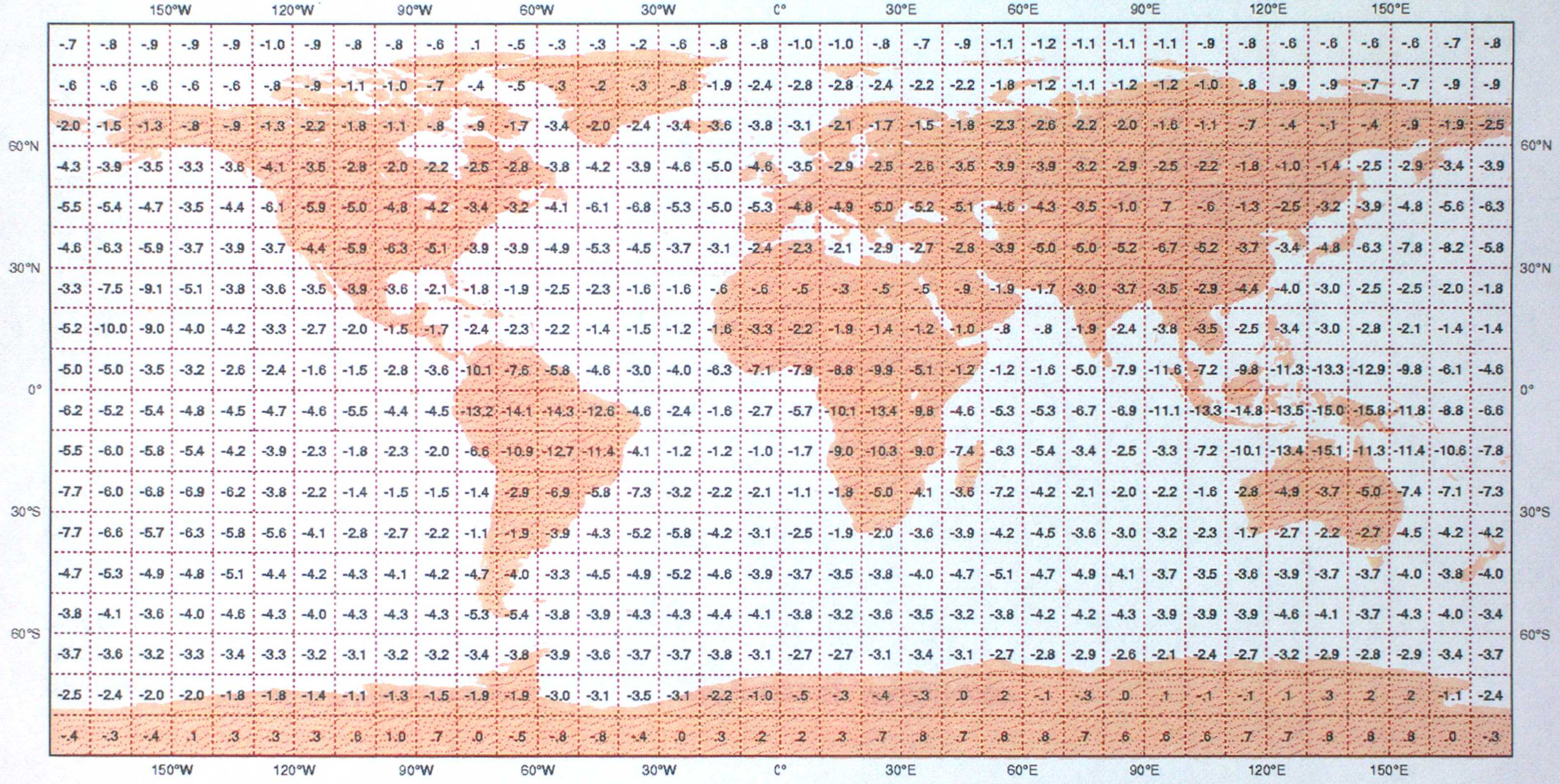
Channel: HIRS8 (Surface)

NOAA16, using all observations



4.0	4.2	4.1	4.3	4.4	4.8	5.2	5.5	5.7	7.4	10.6	6.0	7.8	7.3	8.1	7.1	5.6	4.7	5.1	5.2	4.5	4.8	5.0	5.2	5.2	4.9	4.5	4.8	4.4	3.8	3.4	3.3	3.3	3.5	3.7	3.9
4.3	4.0	4.0	3.7	4.0	4.5	4.4	4.6	5.2	6.7	7.3	8.1	7.2	4.0	3.8	8.2	7.5	8.3	9.7	10.6	9.4	8.8	8.7	8.1	6.3	5.4	5.3	5.6	5.9	5.3	4.4	4.6	4.8	4.5	5.0	5.1
7.5	6.9	7.4	7.4	6.8	6.4	6.8	6.6	5.9	5.4	6.3	9.1	12.3	10.0	11.6	12.5	11.1	10.8	11.3	10.4	9.3	7.8	8.5	8.3	9.3	8.1	7.7	7.2	7.2	6.7	5.6	4.5	5.3	7.1	9.6	9.8
12.1	12.1	12.1	11.1	12.7	13.0	10.9	9.2	8.1	8.2	8.5	9.5	10.7	11.8	13.4	13.5	13.3	13.0	11.9	10.4	9.3	9.5	10.9	12.0	12.2	11.4	10.4	10.4	8.9	8.3	7.5	9.3	11.2	10.9	11.7	11.3
14.8	13.8	12.3	10.9	13.1	15.6	15.6	15.4	14.6	14.8	12.7	11.7	13.3	16.5	18.1	16.1	15.0	16.0	15.6	15.1	15.5	15.3	16.7	16.6	16.5	14.4	12.4	13.8	12.9	11.9	13.8	13.7	13.8	14.9	15.6	15.7
13.4	16.0	15.6	10.8	11.1	12.8	16.5	18.6	19.5	17.5	14.4	13.4	15.7	16.7	16.0	14.6	12.2	13.5	13.2	12.3	13.6	14.1	15.0	19.1	18.4	16.2	17.6	17.9	17.0	16.1	14.3	16.3	17.9	18.5	18.7	16.5
14.1	21.2	21.8	15.4	13.2	12.0	13.1	17.6	14.7	10.4	8.1	8.9	11.3	10.3	8.0	7.8	7.6	11.0	11.3	10.0	7.1	8.6	10.7	12.6	11.8	16.7	16.6	11.8	10.3	12.0	12.3	11.5	9.9	10.3	9.1	7.8
19.7	22.7	21.1	14.1	14.7	12.5	10.2	10.2	8.2	7.8	10.7	9.6	8.8	5.5	5.9	5.4	10.6	16.3	13.3	11.7	10.4	10.6	8.7	3.6	1.8	9.8	11.4	15.9	14.4	11.3	13.7	11.7	11.5	9.4	6.3	7.6
16.9	17.8	14.9	13.9	12.0	12.3	6.9	6.9	13.4	14.9	21.5	20.0	17.0	16.1	12.0	15.3	20.4	21.4	22.0	22.4	24.8	19.1	9.6	4.4	7.3	19.2	23.0	27.4	20.5	22.7	24.6	26.5	25.2	22.8	18.6	15.5
20.9	19.4	19.8	18.7	17.4	18.0	17.5	18.8	16.6	14.6	21.8	23.6	23.9	25.7	17.0	11.7	8.3	12.2	18.3	23.0	24.6	24.1	17.5	19.8	19.7	21.3	21.7	26.2	25.5	24.7	25.4	23.8	24.6	24.7	22.9	20.7
18.8	19.9	19.7	19.0	16.1	14.7	10.1	6.9	8.4	6.3	18.2	24.1	25.6	24.8	15.6	5.0	4.2	3.5	6.8	24.0	23.2	23.4	22.6	21.9	19.1	14.0	10.9	13.8	22.1	25.4	26.5	27.6	24.5	26.2	25.9	23.7
21.3	17.9	20.2	21.0	21.3	15.5	10.6	5.4	5.5	4.8	4.7	18.1	23.2	19.0	20.6	12.6	9.6	8.5	4.9	12.0	17.2	15.8	15.7	23.1	15.4	9.5	8.4	8.1	6.1	14.8	18.5	16.5	19.5	20.6	20.7	21.3
20.9	18.1	17.5	17.5	17.0	16.6	14.0	11.2	10.8	9.1	7.0	14.7	16.4	16.1	17.8	16.7	14.1	11.7	9.5	9.0	11.8	15.2	14.8	14.8	15.3	12.8	11.1	10.7	8.3	9.1	13.3	12.1	15.0	16.5	15.2	15.3
14.3	15.6	14.5	14.7	14.6	13.1	12.7	12.8	12.5	12.6	14.5	16.9	13.8	14.9	15.3	15.0	13.3	11.6	10.5	10.7	11.7	12.5	14.2	14.5	13.8	13.9	12.6	11.8	11.3	11.9	12.4	11.9	13.0	13.6	13.1	13.7
11.7	11.6	11.1	11.5	12.1	11.2	10.8	11.4	11.8	12.2	13.9	15.5	13.5	12.4	12.4	11.8	11.2	10.8	9.8	9.2	10.0	9.9	10.0	11.2	11.4	12.3	12.1	11.6	11.4	11.5	12.8	12.6	12.1	12.4	11.0	11.4
9.3	9.0	8.5	8.5	8.6	8.4	8.6	8.6	9.0	9.5	10.0	11.3	11.1	10.4	9.3	9.4	9.5	8.9	8.4	8.4	7.9	8.8	9.7	10.8	10.6	9.3	9.9	9.9	10.3	9.8	10.8	11.0	10.4	9.3	8.4	8.6
7.3	7.4	7.7	8.2	9.0	9.5	8.8	7.6	8.0	8.7	9.1	9.0	7.9	8.0	8.4	10.3	10.1	7.9	6.3	5.7	6.7	5.4	3.5	3.2	4.8	4.6	3.2	3.5	3.5	3.7	3.3	2.7	2.9	4.0	10.0	8.4
7.8	7.2	7.1	6.4	4.8	4.2	4.3	5.1	5.7	4.5	5.8	6.8	7.5	7.5	7.5	6.2	5.7	4.5	3.4	3.4	3.3	2.7	2.3	2.4	2.2	2.4	2.6	2.2	2.1	2.1	2.7	2.8	2.7	4.7	8.8	7.9

Figure 43. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS15 (700 hPa)
NOAA16, using all observations

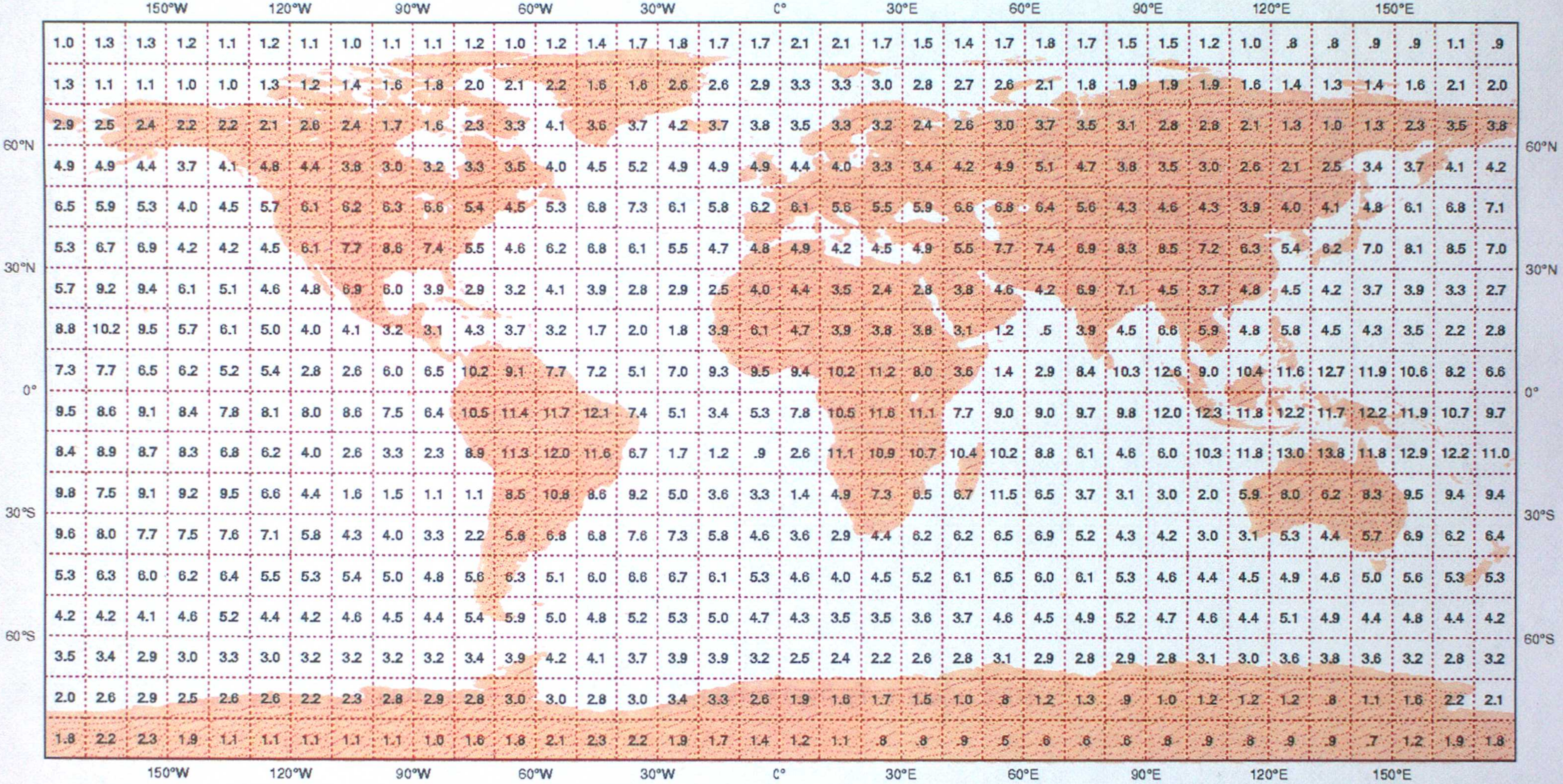


-.7	-.8	-.9	-.9	-.9	-1.0	-.9	-.8	-.8	-.6	.1	-.5	-.3	-.3	-.2	-.6	-.8	-.8	-1.0	-1.0	-.8	-.7	-.9	-1.1	-1.2	-1.1	-1.1	-1.1	-.9	-.8	-.6	-.6	-.6	-.6	-.7	-.8
-.6	-.6	-.6	-.6	-.6	-.8	-.9	-1.1	-1.0	-.7	-.4	-.5	-.3	-.2	-.3	-.8	-1.9	-2.4	-2.8	-2.8	-2.4	-2.2	-2.2	-1.8	-1.2	-1.1	-1.2	-1.2	-1.0	-.8	-.9	-.9	-.7	-.7	-.9	-.9
-2.0	-1.5	-1.3	-.8	-.9	-1.3	-2.2	-1.8	-1.1	-.8	-.9	-1.7	-3.4	-2.0	-2.4	-3.4	-3.6	-3.8	-3.1	-2.1	-1.7	-1.5	-1.8	-2.3	-2.6	-2.2	-2.0	-1.6	-1.1	-.7	-.4	-.1	-.4	-.9	-1.9	-2.5
-4.3	-3.9	-3.5	-3.3	-3.6	-4.1	-3.5	-2.8	-2.0	-2.2	-2.5	-2.8	-3.8	-4.2	-3.9	-4.6	-5.0	-4.6	-3.5	-2.9	-2.5	-2.6	-3.5	-3.9	-3.9	-3.2	-2.9	-2.5	-2.2	-1.8	-1.0	-1.4	-2.5	-2.9	-3.4	-3.9
-5.5	-5.4	-4.7	-3.5	-4.4	-6.1	-5.9	-5.0	-4.8	-4.2	-3.4	-3.2	-4.1	-6.1	-6.8	-5.3	-5.0	-5.3	-4.8	-4.9	-5.0	-5.2	-5.1	-4.6	-4.3	-3.5	-1.0	.7	-.6	-1.3	-2.5	-3.2	-3.9	-4.8	-5.6	-6.3
-4.6	-6.3	-5.9	-3.7	-3.9	-3.7	-4.4	-5.9	-6.3	-5.1	-3.9	-3.9	-4.9	-5.3	-4.5	-3.7	-3.1	-2.4	-2.3	-2.1	-2.9	-2.7	-2.8	-3.9	-5.0	-5.0	-5.2	-6.7	-5.2	-3.7	-3.4	-4.8	-6.3	-7.8	-8.2	-5.8
-3.3	-7.5	-9.1	-5.1	-3.8	-3.6	-3.5	-3.9	-3.6	-2.1	-1.8	-1.9	-2.5	-2.3	-1.6	-1.6	-.6	-.6	-.5	-.3	-.5	-.5	-.9	-1.9	-1.7	-3.0	-3.7	-3.5	-2.9	-4.4	-4.0	-3.0	-2.5	-2.5	-2.0	-1.8
-5.2	-10.0	-9.0	-4.0	-4.2	-3.3	-2.7	-2.0	-1.5	-1.7	-2.4	-2.3	-2.2	-1.4	-1.5	-1.2	-1.6	-3.3	-2.2	-1.9	-1.4	-1.2	-1.0	-.8	-.8	-1.9	-2.4	-3.8	-3.5	-2.5	-3.4	-3.0	-2.8	-2.1	-1.4	-1.4
-5.0	-5.0	-3.5	-3.2	-2.6	-2.4	-1.6	-1.5	-2.8	-3.6	-10.1	-7.6	-5.8	-4.6	-3.0	-4.0	-6.3	-7.1	-7.9	-8.8	-9.9	-5.1	-1.2	-1.2	-1.6	-5.0	-7.9	-11.6	-7.2	-9.8	-11.3	-13.3	-12.9	-9.8	-6.1	-4.6
-6.2	-5.2	-5.4	-4.8	-4.5	-4.7	-4.6	-5.5	-4.4	-4.5	-13.2	-14.1	-14.3	-12.6	-4.6	-2.4	-1.6	-2.7	-5.7	-10.1	-13.4	-9.8	-4.6	-5.3	-5.3	-6.7	-6.9	-11.1	-13.3	-14.8	-13.5	-15.0	-15.8	-11.8	-8.8	-6.6
-5.5	-6.0	-5.8	-5.4	-4.2	-3.9	-2.3	-1.8	-2.3	-2.0	-6.6	-10.9	-12.7	-11.4	-4.1	-1.2	-1.2	-1.0	-1.7	-9.0	-10.3	-9.0	-7.4	-6.3	-5.4	-3.4	-2.5	-3.3	-7.2	-10.1	-13.4	-15.1	-11.3	-11.4	-10.6	-7.8
-7.7	-6.0	-6.8	-6.9	-6.2	-3.8	-2.2	-1.4	-1.5	-1.5	-1.4	-2.9	-6.9	-5.8	-7.3	-3.2	-2.2	-2.1	-1.1	-1.8	-5.0	-4.1	-3.6	-7.2	-4.2	-2.1	-2.0	-2.2	-1.6	-2.8	-4.9	-3.7	-5.0	-7.4	-7.1	-7.3
-7.7	-6.6	-5.7	-6.3	-5.8	-5.6	-4.1	-2.8	-2.7	-2.2	-1.1	-1.9	-3.9	-4.3	-5.2	-5.8	-4.2	-3.1	-2.5	-1.9	-2.0	-3.6	-3.9	-4.2	-4.5	-3.6	-3.0	-3.2	-2.3	-1.7	-2.7	-2.2	-2.7	-4.5	-4.2	-4.2
-4.7	-5.3	-4.9	-4.8	-5.1	-4.4	-4.2	-4.3	-4.1	-4.2	-4.7	-4.0	-3.3	-4.5	-4.9	-5.2	-4.6	-3.9	-3.7	-3.5	-3.8	-4.0	-4.7	-5.1	-4.7	-4.9	-4.1	-3.7	-3.5	-3.6	-3.9	-3.7	-3.7	-4.0	-3.8	-4.0
-3.8	-4.1	-3.6	-4.0	-4.6	-4.3	-4.0	-4.3	-4.3	-4.3	-5.3	-5.4	-3.8	-3.9	-4.3	-4.3	-4.4	-4.1	-3.8	-3.2	-3.6	-3.5	-3.2	-3.8	-4.2	-4.2	-4.3	-3.9	-3.9	-3.9	-4.6	-4.1	-3.7	-4.3	-4.0	-3.4
-3.7	-3.6	-3.2	-3.3	-3.4	-3.3	-3.2	-3.1	-3.2	-3.2	-3.4	-3.8	-3.9	-3.6	-3.7	-3.7	-3.8	-3.1	-2.7	-2.7	-3.1	-3.4	-3.1	-2.7	-2.8	-2.9	-2.6	-2.1	-2.4	-2.7	-3.2	-2.9	-2.8	-2.9	-3.4	-3.7
-2.5	-2.4	-2.0	-2.0	-1.8	-1.8	-1.4	-1.1	-1.3	-1.5	-1.9	-1.9	-3.0	-3.1	-3.5	-3.1	-2.2	-1.0	-.5	-.3	-.4	-.3	.0	.2	-.1	-.3	.0	.1	-.1	-.1	.1	.3	.2	.2	-1.1	-2.4
-.4	-.3	-.4	.1	.3	.3	.3	.6	1.0	.7	.0	-.5	-.8	-.8	-.4	.0	.3	.2	.2	.3	.7	.8	.7	.8	.8	.7	.6	.6	.6	.7	.7	.8	.8	.8	.0	-.3

Figure 44. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006

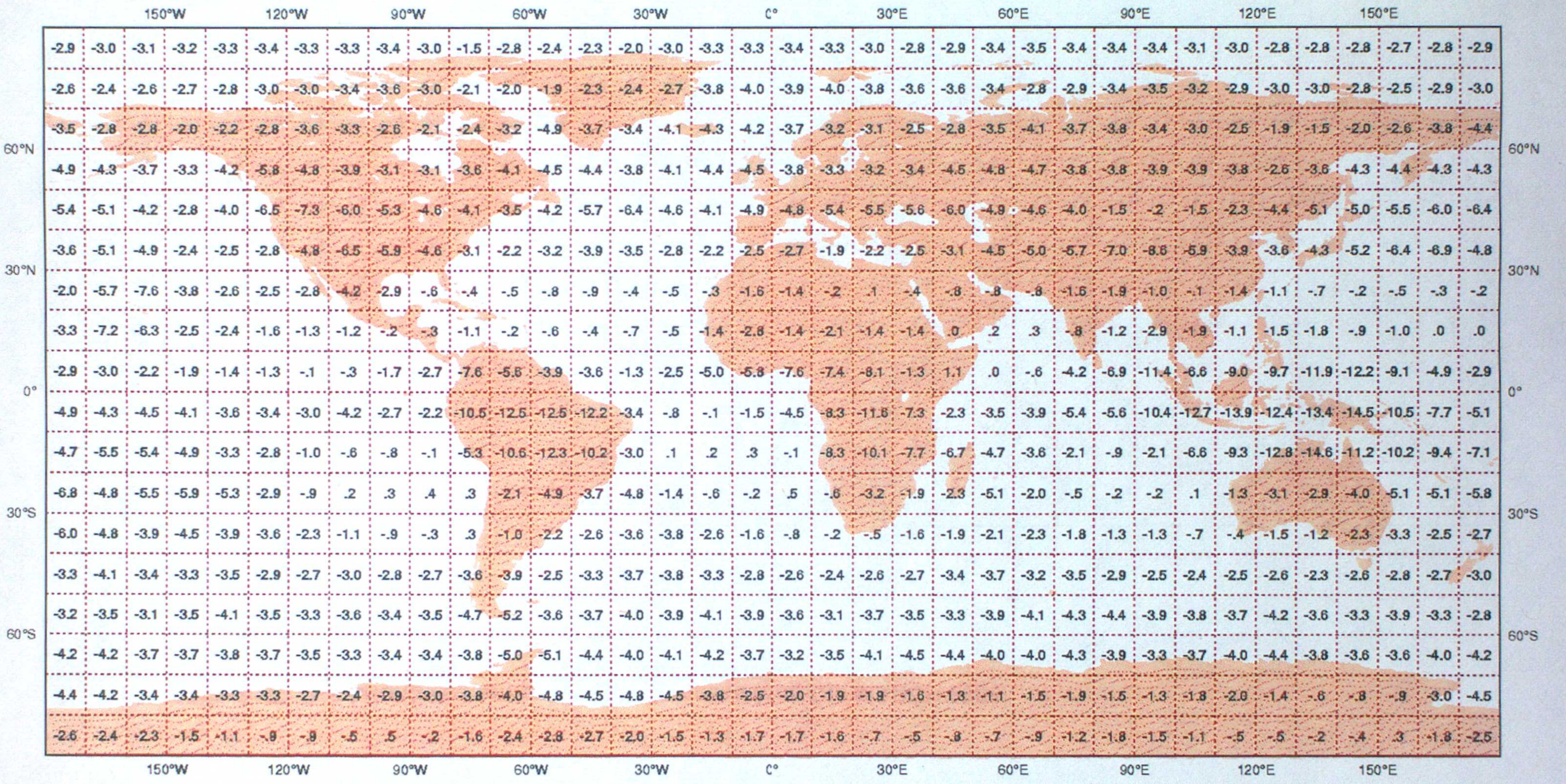
Channel: HIRS15 (700 hPa)

NOAA16, using all observations



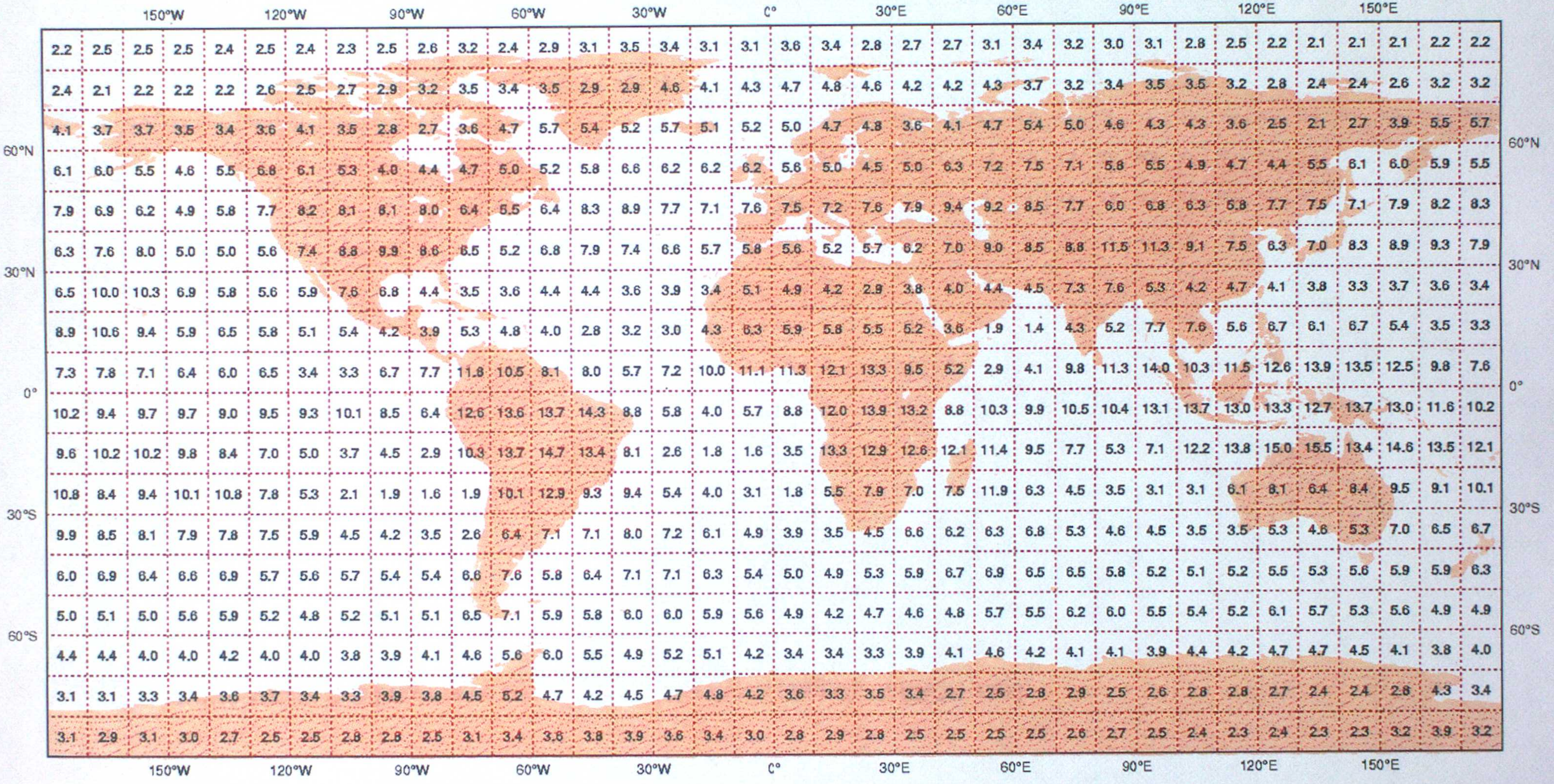
1.0	1.3	1.3	1.2	1.1	1.2	1.1	1.0	1.1	1.1	1.2	1.0	1.2	1.4	1.7	1.8	1.7	1.7	2.1	2.1	1.7	1.5	1.4	1.7	1.8	1.7	1.5	1.5	1.2	1.0	.8	.8	.9	.9	1.1	.9
1.3	1.1	1.1	1.0	1.0	1.3	1.2	1.4	1.6	1.8	2.0	2.1	2.2	1.6	1.6	2.6	2.6	2.9	3.3	3.3	3.0	2.8	2.7	2.6	2.1	1.8	1.9	1.9	1.9	1.6	1.4	1.3	1.4	1.6	2.1	2.0
2.9	2.5	2.4	2.2	2.2	2.1	2.6	2.4	1.7	1.6	2.3	3.3	4.1	3.6	3.7	4.2	3.7	3.8	3.5	3.3	3.2	2.4	2.6	3.0	3.7	3.5	3.1	2.8	2.8	2.1	1.3	1.0	1.3	2.3	3.5	3.8
4.9	4.9	4.4	3.7	4.1	4.8	4.4	3.8	3.0	3.2	3.3	3.5	4.0	4.5	5.2	4.9	4.9	4.9	4.4	4.0	3.3	3.4	4.2	4.9	5.1	4.7	3.8	3.5	3.0	2.6	2.1	2.5	3.4	3.7	4.1	4.2
6.5	5.9	5.3	4.0	4.5	5.7	6.1	6.2	6.3	6.6	5.4	4.5	5.3	6.8	7.3	6.1	5.8	6.2	6.1	5.6	5.5	5.9	6.6	6.8	6.4	5.6	4.3	4.6	4.3	3.9	4.0	4.1	4.8	6.1	6.8	7.1
5.3	6.7	6.9	4.2	4.2	4.5	6.1	7.7	8.6	7.4	5.5	4.6	6.2	6.8	6.1	5.5	4.7	4.8	4.9	4.2	4.5	4.9	5.5	7.7	7.4	6.9	8.3	8.5	7.2	6.3	5.4	6.2	7.0	8.1	8.5	7.0
5.7	9.2	9.4	6.1	5.1	4.6	4.8	6.9	6.0	3.9	2.9	3.2	4.1	3.9	2.8	2.9	2.5	4.0	4.4	3.5	2.4	2.8	3.8	4.6	4.2	6.9	7.1	4.5	3.7	4.8	4.5	4.2	3.7	3.9	3.3	2.7
8.8	10.2	9.5	5.7	6.1	5.0	4.0	4.1	3.2	3.1	4.3	3.7	3.2	1.7	2.0	1.8	3.9	6.1	4.7	3.9	3.8	3.8	3.1	1.2	.5	3.9	4.5	6.6	5.9	4.8	5.8	4.5	4.3	3.5	2.2	2.8
7.3	7.7	6.5	6.2	5.2	5.4	2.8	2.6	6.0	6.5	10.2	9.1	7.7	7.2	5.1	7.0	9.3	9.5	9.4	10.2	11.2	8.0	3.6	1.4	2.9	8.4	10.3	12.6	9.0	10.4	11.6	12.7	11.9	10.6	8.2	6.6
9.5	8.6	9.1	8.4	7.8	8.1	8.0	8.6	7.5	6.4	10.5	11.4	11.7	12.1	7.4	5.1	3.4	5.3	7.8	10.5	11.6	11.1	7.7	9.0	9.0	9.7	9.8	12.0	12.3	11.8	12.2	11.7	12.2	11.9	10.7	9.7
8.4	8.9	8.7	8.3	6.8	6.2	4.0	2.6	3.3	2.3	8.9	11.3	12.0	11.6	6.7	1.7	1.2	.9	2.6	11.1	10.9	10.7	10.4	10.2	8.8	6.1	4.6	6.0	10.3	11.8	13.0	13.8	11.8	12.9	12.2	11.0
9.8	7.5	9.1	9.2	9.5	6.6	4.4	1.6	1.5	1.1	1.1	8.5	10.8	8.6	9.2	5.0	3.6	3.3	1.4	4.9	7.3	6.5	6.7	11.5	6.5	3.7	3.1	3.0	2.0	5.9	8.0	6.2	8.3	9.5	9.4	9.4
9.6	8.0	7.7	7.5	7.6	7.1	5.8	4.3	4.0	3.3	2.2	5.8	6.8	6.8	7.6	7.3	5.8	4.6	3.6	2.9	4.4	6.2	6.2	6.5	6.9	5.2	4.3	4.2	3.0	3.1	5.3	4.4	5.7	6.9	6.2	6.4
5.3	6.3	6.0	6.2	6.4	5.5	5.3	5.4	5.0	4.8	5.6	6.3	5.1	6.0	6.6	6.7	6.1	5.3	4.6	4.0	4.5	5.2	6.1	6.5	6.0	6.1	5.3	4.6	4.4	4.5	4.9	4.6	5.0	5.6	5.3	5.3
4.2	4.2	4.1	4.6	5.2	4.4	4.2	4.6	4.5	4.4	5.4	5.9	5.0	4.8	5.2	5.3	5.0	4.7	4.3	3.5	3.5	3.6	3.7	4.6	4.5	4.9	5.2	4.7	4.6	4.4	5.1	4.9	4.4	4.8	4.4	4.2
3.5	3.4	2.9	3.0	3.3	3.0	3.2	3.2	3.2	3.2	3.4	3.9	4.2	4.1	3.7	3.9	3.9	3.2	2.5	2.4	2.2	2.6	2.8	3.1	2.9	2.8	2.9	2.8	3.1	3.0	3.6	3.8	3.6	3.2	2.8	3.2
2.0	2.6	2.9	2.5	2.6	2.6	2.2	2.3	2.8	2.9	2.8	3.0	3.0	2.8	3.0	3.4	3.3	2.6	1.9	1.6	1.7	1.5	1.0	.8	1.2	1.3	.9	1.0	1.2	1.2	1.2	.8	1.1	1.6	2.2	2.1
1.8	2.2	2.3	1.9	1.1	1.1	1.1	1.1	1.1	1.0	1.6	1.8	2.1	2.3	2.2	1.9	1.7	1.4	1.2	1.1	.8	.8	.9	.5	.6	.6	.6	.8	.9	.8	.9	.9	.7	1.2	1.9	1.8

Figure 45. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



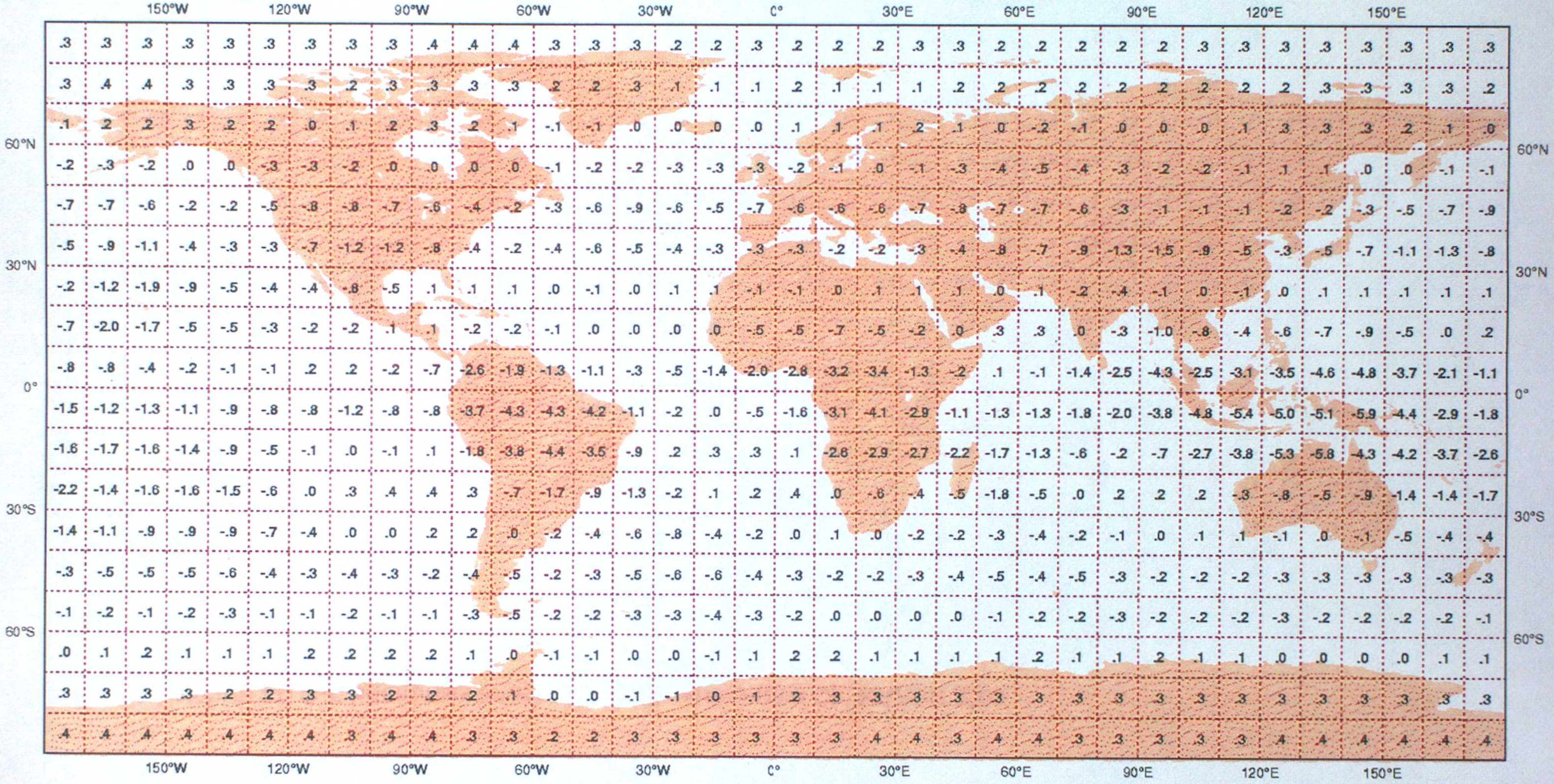
-2.9	-3.0	-3.1	-3.2	-3.3	-3.4	-3.3	-3.3	-3.4	-3.0	-1.5	-2.8	-2.4	-2.3	-2.0	-3.0	-3.3	-3.3	-3.4	-3.3	-3.0	-2.8	-2.9	-3.4	-3.5	-3.4	-3.4	-3.4	-3.1	-3.0	-2.8	-2.8	-2.8	-2.7	-2.8	-2.9
-2.6	-2.4	-2.6	-2.7	-2.8	-3.0	-3.0	-3.4	-3.6	-3.0	-2.1	-2.0	-1.9	-2.3	-2.4	-2.7	-3.8	-4.0	-3.9	-4.0	-3.8	-3.6	-3.6	-3.4	-2.8	-2.9	-3.4	-3.5	-3.2	-2.9	-3.0	-3.0	-2.8	-2.5	-2.9	-3.0
-3.5	-2.8	-2.8	-2.0	-2.2	-2.8	-3.6	-3.3	-2.6	-2.1	-2.4	-3.2	-4.9	-3.7	-3.4	-4.1	-4.3	-4.2	-3.7	-3.2	-3.1	-2.5	-2.8	-3.5	-4.1	-3.7	-3.8	-3.4	-3.0	-2.5	-1.9	-1.5	-2.0	-2.6	-3.8	-4.4
-4.9	-4.3	-3.7	-3.3	-4.2	-5.8	-4.8	-3.9	-3.1	-3.1	-3.6	-4.1	-4.5	-4.4	-3.8	-4.1	-4.4	-4.5	-3.8	-3.3	-3.2	-3.4	-4.5	-4.8	-4.7	-3.8	-3.8	-3.9	-3.9	-3.8	-2.6	-3.6	-4.3	-4.4	-4.3	-4.3
-5.4	-5.1	-4.2	-2.8	-4.0	-6.5	-7.3	-6.0	-5.3	-4.6	-4.1	-3.5	-4.2	-5.7	-6.4	-4.6	-4.1	-4.9	-4.8	-5.4	-5.5	-5.6	-6.0	-4.9	-4.6	-4.0	-1.5	-2	-1.5	-2.3	-4.4	-5.1	-5.0	-5.5	-6.0	-6.4
-3.6	-5.1	-4.9	-2.4	-2.5	-2.8	-4.8	-6.5	-5.9	-4.6	-3.1	-2.2	-3.2	-3.9	-3.5	-2.8	-2.2	-2.5	-2.7	-1.9	-2.2	-2.5	-3.1	-4.5	-5.0	-5.7	-7.0	-8.6	-5.9	-3.9	-3.6	-4.3	-5.2	-6.4	-6.9	-4.8
-2.0	-5.7	-7.6	-3.8	-2.6	-2.5	-2.8	-4.2	-2.9	-.6	-.4	-.5	-.8	-.9	-.4	-.5	-.3	-1.6	-1.4	-.2	.1	-.4	-.8	-.8	-.8	-1.6	-1.9	-1.0	-.1	-1.4	-1.1	-.7	-.2	-.5	-.3	-.2
-3.3	-7.2	-6.3	-2.5	-2.4	-1.6	-1.3	-1.2	-.2	-.3	-1.1	-.2	-.6	-.4	-.7	-.5	-1.4	-2.8	-1.4	-2.1	-1.4	-1.4	.0	.2	.3	-.8	-1.2	-2.9	-1.9	-1.1	-1.5	-1.8	-.9	-1.0	.0	.0
-2.9	-3.0	-2.2	-1.9	-1.4	-1.3	-.1	-.3	-1.7	-2.7	-7.6	-5.6	-3.9	-3.6	-1.3	-2.5	-5.0	-5.8	-7.6	-7.4	-8.1	-1.3	1.1	.0	-.6	-4.2	-6.9	-11.4	-6.6	-9.0	-9.7	-11.9	-12.2	-9.1	-4.9	-2.9
-4.9	-4.3	-4.5	-4.1	-3.6	-3.4	-3.0	-4.2	-2.7	-2.2	-10.5	-12.5	-12.5	-12.2	-3.4	-.8	-.1	-1.5	-4.5	-8.3	-11.6	-7.3	-2.3	-3.5	-3.9	-5.4	-5.6	-10.4	-12.7	-13.9	-12.4	-13.4	-14.5	-10.5	-7.7	-5.1
-4.7	-5.5	-5.4	-4.9	-3.3	-2.8	-1.0	-.6	-.8	-.1	-5.3	-10.6	-12.3	-10.2	-3.0	.1	.2	.3	-.1	-8.3	-10.1	-7.7	-6.7	-4.7	-3.6	-2.1	-.9	-2.1	-6.6	-9.3	-12.8	-14.6	-11.2	-10.2	-9.4	-7.1
-6.8	-4.8	-5.5	-5.9	-5.3	-2.9	-.9	.2	.3	.4	.3	-2.1	-4.9	-3.7	-4.8	-1.4	-.6	-.2	.5	-.6	-3.2	-1.9	-2.3	-5.1	-2.0	-.5	-.2	-.2	.1	-1.3	-3.1	-2.9	-4.0	-5.1	-5.1	-5.8
-6.0	-4.8	-3.9	-4.5	-3.9	-3.6	-2.3	-1.1	-.9	-.3	.3	-1.0	-2.2	-2.6	-3.6	-3.8	-2.6	-1.6	-.8	-.2	-.5	-1.6	-1.9	-2.1	-2.3	-1.8	-1.3	-1.3	-.7	-.4	-1.5	-1.2	-2.3	-3.3	-2.5	-2.7
-3.3	-4.1	-3.4	-3.3	-3.5	-2.9	-2.7	-3.0	-2.8	-2.7	-3.6	-3.9	-2.5	-3.3	-3.7	-3.8	-3.3	-2.8	-2.6	-2.4	-2.6	-2.7	-3.4	-3.7	-3.2	-3.5	-2.9	-2.5	-2.4	-2.5	-2.6	-2.3	-2.6	-2.8	-2.7	-3.0
-3.2	-3.5	-3.1	-3.5	-4.1	-3.5	-3.3	-3.6	-3.4	-3.5	-4.7	-5.2	-3.6	-3.7	-4.0	-3.9	-4.1	-3.9	-3.6	-3.1	-3.7	-3.5	-3.3	-3.9	-4.1	-4.3	-4.4	-3.9	-3.8	-3.7	-4.2	-3.6	-3.3	-3.9	-3.3	-2.8
-4.2	-4.2	-3.7	-3.7	-3.8	-3.7	-3.5	-3.3	-3.4	-3.4	-3.8	-5.0	-5.1	-4.4	-4.0	-4.1	-4.2	-3.7	-3.2	-3.5	-4.1	-4.5	-4.4	-4.0	-4.0	-4.3	-3.9	-3.3	-3.7	-4.0	-4.4	-3.8	-3.6	-3.6	-4.0	-4.2
-4.4	-4.2	-3.4	-3.4	-3.3	-3.3	-2.7	-2.4	-2.9	-3.0	-3.8	-4.0	-4.8	-4.5	-4.8	-4.5	-3.8	-2.5	-2.0	-1.9	-1.9	-1.6	-1.3	-1.1	-1.5	-1.9	-1.5	-1.3	-1.8	-2.0	-1.4	-.6	-.8	-.9	-3.0	-4.5
-2.6	-2.4	-2.3	-1.5	-1.1	-.9	-.9	-.5	.5	-.2	-1.6	-2.4	-2.8	-2.7	-2.0	-1.5	-1.3	-1.7	-1.7	-1.6	-.7	-.5	-.8	-.7	-.9	-1.2	-1.8	-1.5	-1.1	-.5	-.5	-.2	-.4	.3	-1.8	-2.5

Figure 46. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



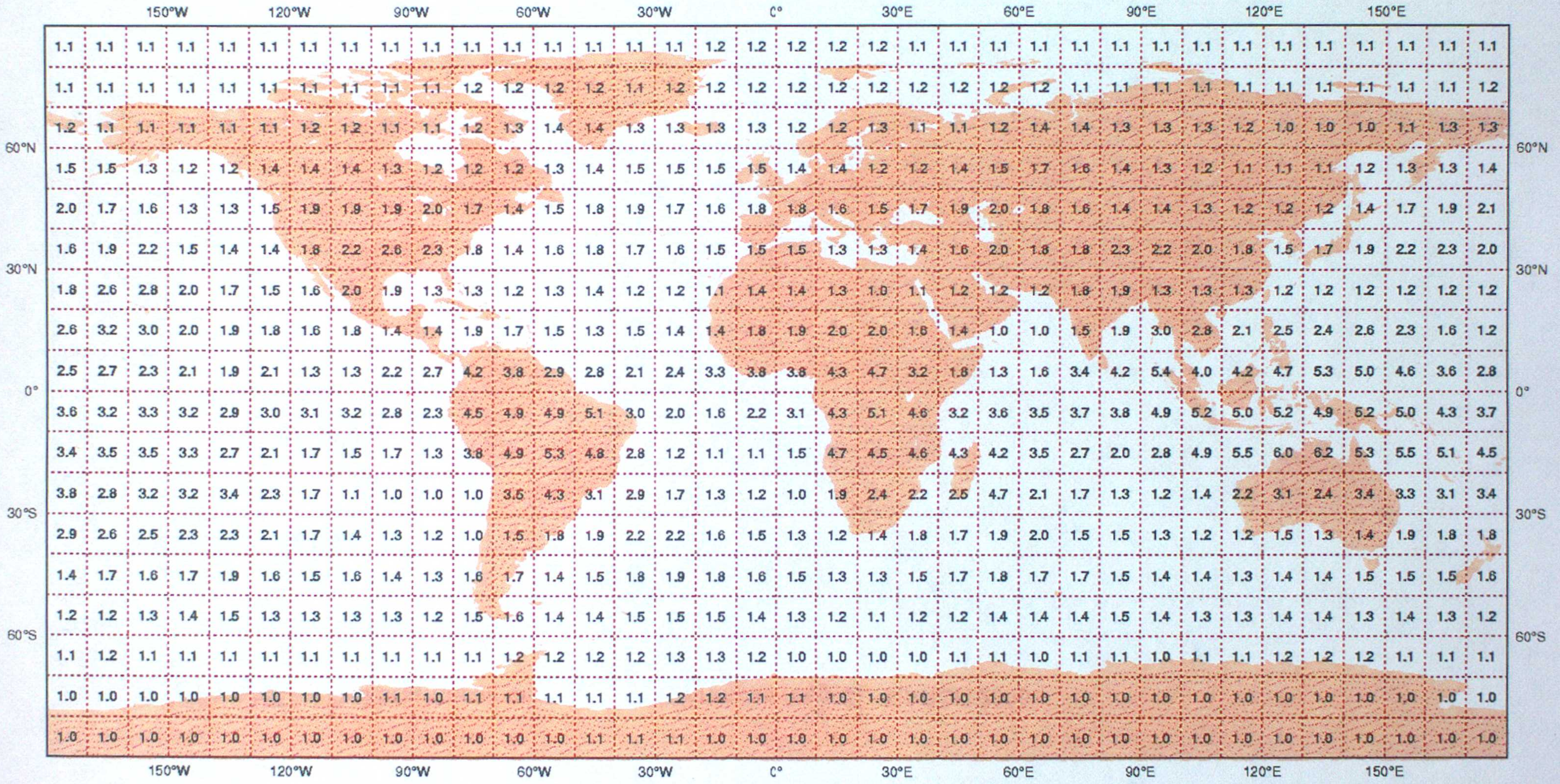
2.2	2.5	2.5	2.5	2.4	2.5	2.4	2.3	2.5	2.6	3.2	2.4	2.9	3.1	3.5	3.4	3.1	3.1	3.6	3.4	2.8	2.7	2.7	3.1	3.4	3.2	3.0	3.1	2.8	2.5	2.2	2.1	2.1	2.1	2.2	2.2
2.4	2.1	2.2	2.2	2.2	2.6	2.5	2.7	2.9	3.2	3.5	3.4	3.5	2.9	2.9	4.6	4.1	4.3	4.7	4.8	4.6	4.2	4.2	4.3	3.7	3.2	3.4	3.5	3.5	3.2	2.8	2.4	2.4	2.6	3.2	3.2
4.1	3.7	3.7	3.5	3.4	3.6	4.1	3.5	2.8	2.7	3.6	4.7	5.7	5.4	5.2	5.7	5.1	5.2	5.0	4.7	4.8	3.6	4.1	4.7	5.4	5.0	4.6	4.3	4.3	3.6	2.5	2.1	2.7	3.9	5.5	5.7
6.1	6.0	5.5	4.6	5.5	6.8	6.1	5.3	4.0	4.4	4.7	5.0	5.2	5.8	6.6	6.2	6.2	6.2	5.6	5.0	4.5	5.0	6.3	7.2	7.5	7.1	5.8	5.5	4.9	4.7	4.4	5.5	6.1	6.0	5.9	5.5
7.9	6.9	6.2	4.9	5.8	7.7	8.2	8.1	8.1	8.0	6.4	5.5	6.4	8.3	8.9	7.7	7.1	7.6	7.5	7.2	7.6	7.9	9.4	9.2	8.5	7.7	6.0	6.8	6.3	5.8	7.7	7.5	7.1	7.9	8.2	8.3
6.3	7.6	8.0	5.0	5.0	5.6	7.4	8.8	9.9	8.6	6.5	5.2	6.8	7.9	7.4	6.6	5.7	5.8	5.6	5.2	5.7	6.2	7.0	9.0	8.5	8.8	11.5	11.3	9.1	7.5	6.3	7.0	8.3	8.9	9.3	7.9
6.5	10.0	10.3	6.9	5.8	5.6	5.9	7.6	6.8	4.4	3.5	3.6	4.4	4.4	3.6	3.9	3.4	5.1	4.9	4.2	2.9	3.8	4.0	4.4	4.5	7.3	7.6	5.3	4.2	4.7	4.1	3.8	3.3	3.7	3.6	3.4
8.9	10.6	9.4	5.9	6.5	5.8	5.1	5.4	4.2	3.9	5.3	4.8	4.0	2.8	3.2	3.0	4.3	6.3	5.9	5.8	5.5	5.2	3.6	1.9	1.4	4.3	5.2	7.7	7.6	5.6	6.7	6.1	6.7	5.4	3.5	3.3
7.3	7.8	7.1	6.4	6.0	6.5	3.4	3.3	6.7	7.7	11.8	10.5	8.1	8.0	5.7	7.2	10.0	11.1	11.3	12.1	13.3	9.5	5.2	2.9	4.1	9.8	11.3	14.0	10.3	11.5	12.6	13.9	13.5	12.5	9.8	7.6
10.2	9.4	9.7	9.7	9.0	9.5	9.3	10.1	8.5	6.4	12.6	13.6	13.7	14.3	8.8	5.8	4.0	5.7	8.8	12.0	13.9	13.2	8.8	10.3	9.9	10.5	10.4	13.1	13.7	13.0	13.3	12.7	13.7	13.0	11.6	10.2
9.6	10.2	10.2	9.8	8.4	7.0	5.0	3.7	4.5	2.9	10.3	13.7	14.7	13.4	8.1	2.6	1.8	1.6	3.5	13.3	12.9	12.6	12.1	11.4	9.5	7.7	5.3	7.1	12.2	13.8	15.0	15.5	13.4	14.6	13.5	12.1
10.8	8.4	9.4	10.1	10.8	7.8	5.3	2.1	1.9	1.6	1.9	10.1	12.9	9.3	9.4	5.4	4.0	3.1	1.8	5.5	7.9	7.0	7.5	11.9	6.3	4.5	3.5	3.1	3.1	6.1	8.1	6.4	8.4	9.5	9.1	10.1
9.9	8.5	8.1	7.9	7.8	7.5	5.9	4.5	4.2	3.5	2.6	6.4	7.1	7.1	8.0	7.2	6.1	4.9	3.9	3.5	4.5	6.6	6.2	6.3	6.8	5.3	4.6	4.5	3.5	3.5	5.3	4.6	5.3	7.0	6.5	6.7
6.0	6.9	6.4	6.6	6.9	5.7	5.6	5.7	5.4	5.4	6.6	7.6	5.8	6.4	7.1	7.1	6.3	5.4	5.0	4.9	5.3	5.9	6.7	6.9	6.5	6.5	5.8	5.2	5.1	5.2	5.5	5.3	5.6	5.9	5.9	6.3
5.0	5.1	5.0	5.6	5.9	5.2	4.8	5.2	5.1	5.1	6.5	7.1	5.9	5.8	6.0	6.0	5.9	5.6	4.9	4.2	4.7	4.6	4.8	5.7	5.5	6.2	6.0	5.5	5.4	5.2	6.1	5.7	5.3	5.6	4.9	4.9
4.4	4.4	4.0	4.0	4.2	4.0	4.0	3.8	3.9	4.1	4.6	5.6	6.0	5.5	4.9	5.2	5.1	4.2	3.4	3.4	3.3	3.9	4.1	4.6	4.2	4.1	4.1	3.9	4.4	4.2	4.7	4.7	4.5	4.1	3.8	4.0
3.1	3.1	3.3	3.4	3.6	3.7	3.4	3.3	3.9	3.8	4.5	5.2	4.7	4.2	4.5	4.7	4.8	4.2	3.6	3.3	3.5	3.4	2.7	2.5	2.8	2.9	2.5	2.6	2.8	2.8	2.7	2.4	2.4	2.8	4.3	3.4
3.1	2.9	3.1	3.0	2.7	2.5	2.5	2.8	2.8	2.5	3.1	3.4	3.6	3.8	3.9	3.6	3.4	3.0	2.8	2.9	2.8	2.5	2.5	2.5	2.5	2.6	2.7	2.5	2.4	2.3	2.4	2.3	2.3	3.2	3.9	3.2

Figure 47. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



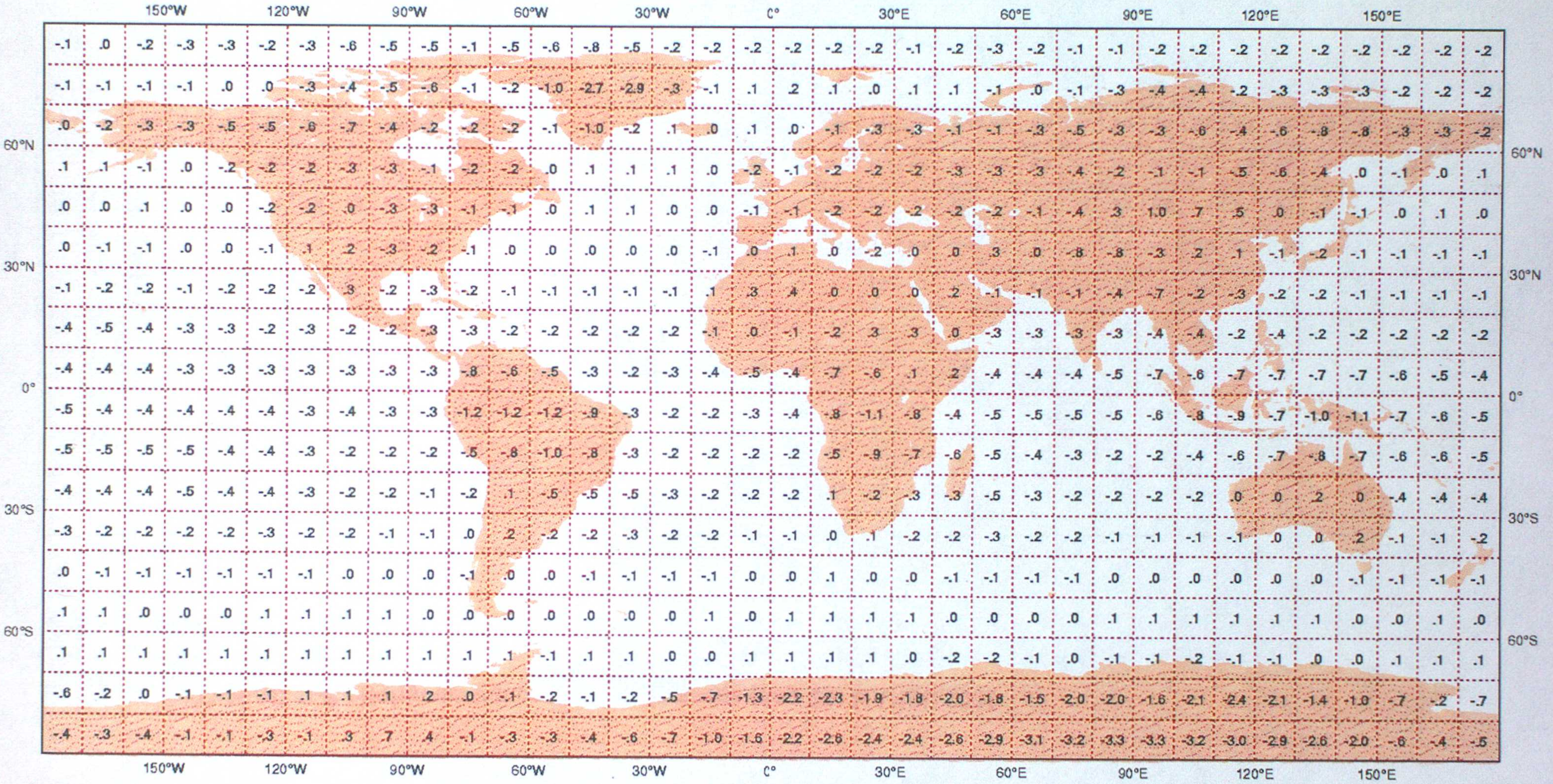
.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.2	.2	.3	.2	.2	.2	.3	.3	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3
.3	.4	.4	.3	.3	.3	.3	.2	.3	.3	.3	.3	.2	.2	.3	.1	.1	.1	.2	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.2
.1	.2	.2	.3	.2	.2	.0	.1	.2	.3	.2	.1	-.1	-.1	.0	.0	.0	.0	.1	.1	.1	.2	.1	.0	-.2	-.1	.0	.0	.0	.1	.3	.3	.3	.2	.1	.0
-.2	-.3	-.2	.0	.0	-.3	-.3	-.2	.0	.0	.0	.0	-.1	-.2	-.2	-.3	-.3	-.3	-.2	-.1	.0	-.1	-.3	-.4	-.5	-.4	-.3	-.2	-.2	-.1	.1	.1	.0	.0	-.1	-.1
-.7	-.7	-.6	-.2	-.2	-.5	-.8	-.8	-.7	-.6	-.4	-.2	-.3	-.6	-.9	-.6	-.5	-.7	-.6	-.6	-.6	-.7	-.8	-.7	-.7	-.6	-.3	-.1	-.1	-.1	-.2	-.2	-.3	-.5	-.7	-.9
-.5	-.9	-1.1	-.4	-.3	-.3	-.7	-1.2	-1.2	-.8	-.4	-.2	-.4	-.6	-.5	-.4	-.3	-.3	-.3	-.2	-.2	-.3	-.4	-.8	-.7	-.9	-1.3	-1.5	-.9	-.5	-.3	-.5	-.7	-1.1	-1.3	-.8
-.2	-1.2	-1.9	-.9	-.5	-.4	-.4	-.8	-.5	.1	.1	.1	.0	-.1	.0	.1	.1	-.1	-.1	.0	.1	.1	.1	.0	.1	-.2	-.4	-.1	.0	-.1	.0	.1	.1	.1	.1	.1
-.7	-2.0	-1.7	-.5	-.5	-.3	-.2	-.2	.1	.1	-.2	-.2	-.1	.0	.0	.0	.0	-.5	-.5	-.7	-.5	-.2	.0	.3	.3	.0	-.3	-1.0	-.8	-.4	-.6	-.7	-.9	-.5	.0	.2
-.8	-.8	-.4	-.2	-.1	-.1	.2	.2	-.2	-.7	-2.6	-1.9	-1.3	-1.1	-.3	-.5	-1.4	-2.0	-2.8	-3.2	-3.4	-1.3	-.2	.1	-.1	-1.4	-2.5	-4.3	-2.5	-3.1	-3.5	-4.6	-4.8	-3.7	-2.1	-1.1
-1.5	-1.2	-1.3	-1.1	-.9	-.8	-.8	-1.2	-.8	-.8	-3.7	-4.3	-4.3	-4.2	-1.1	-.2	.0	-.5	-1.6	-3.1	-4.1	-2.9	-1.1	-1.3	-1.3	-1.8	-2.0	-3.8	-4.8	-5.4	-5.0	-5.1	-5.9	-4.4	-2.9	-1.8
-1.6	-1.7	-1.6	-1.4	-.9	-.5	-.1	.0	-.1	.1	-1.8	-3.8	-4.4	-3.5	-.9	.2	.3	.3	.1	-2.6	-2.9	-2.7	-2.2	-1.7	-1.3	-.6	-.2	-.7	-2.7	-3.8	-5.3	-5.8	-4.3	-4.2	-3.7	-2.6
-2.2	-1.4	-1.6	-1.6	-1.5	-.6	.0	.3	.4	.4	.3	-.7	-1.7	-.9	-1.3	-.2	.1	.2	.4	.0	-.6	-.4	-.5	-1.8	-.5	.0	.2	.2	.2	-.3	-.8	-.5	-.9	-1.4	-1.4	-1.7
-1.4	-1.1	-.9	-.9	-.9	-.7	-.4	.0	.0	.2	.2	.0	-.2	-.4	-.6	-.8	-.4	-.2	.0	.1	.0	-.2	-.2	-.3	-.4	-.2	-.1	.0	.1	.1	-.1	.0	-.1	-.5	-.4	-.4
-.3	-.5	-.5	-.5	-.6	-.4	-.3	-.4	-.3	-.2	-.4	-.5	-.2	-.3	-.5	-.6	-.6	-.4	-.3	-.2	-.2	-.3	-.4	-.5	-.4	-.5	-.3	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3
-.1	-.2	-.1	-.2	-.3	-.1	-.1	-.2	-.1	-.1	-.3	-.5	-.2	-.2	-.3	-.3	-.4	-.3	-.2	.0	.0	.0	.0	-.1	-.2	-.2	-.3	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.1
.0	.1	.2	.1	.1	.1	.2	.2	.2	.2	.1	.0	-.1	-.1	.0	.0	-.1	.1	.2	.2	.1	.1	.1	.1	.2	.1	.1	.2	.1	.1	.0	.0	.0	.0	.1	.1
.3	.3	.3	.3	.2	.2	.3	.3	.2	.2	.2	.1	.0	.0	-.1	-.1	.0	.1	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.3	.3	.2	.2	.3	.3	.3	.3	.3	.3	.4	.4	.3	.4	.4	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4

Figure 48. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



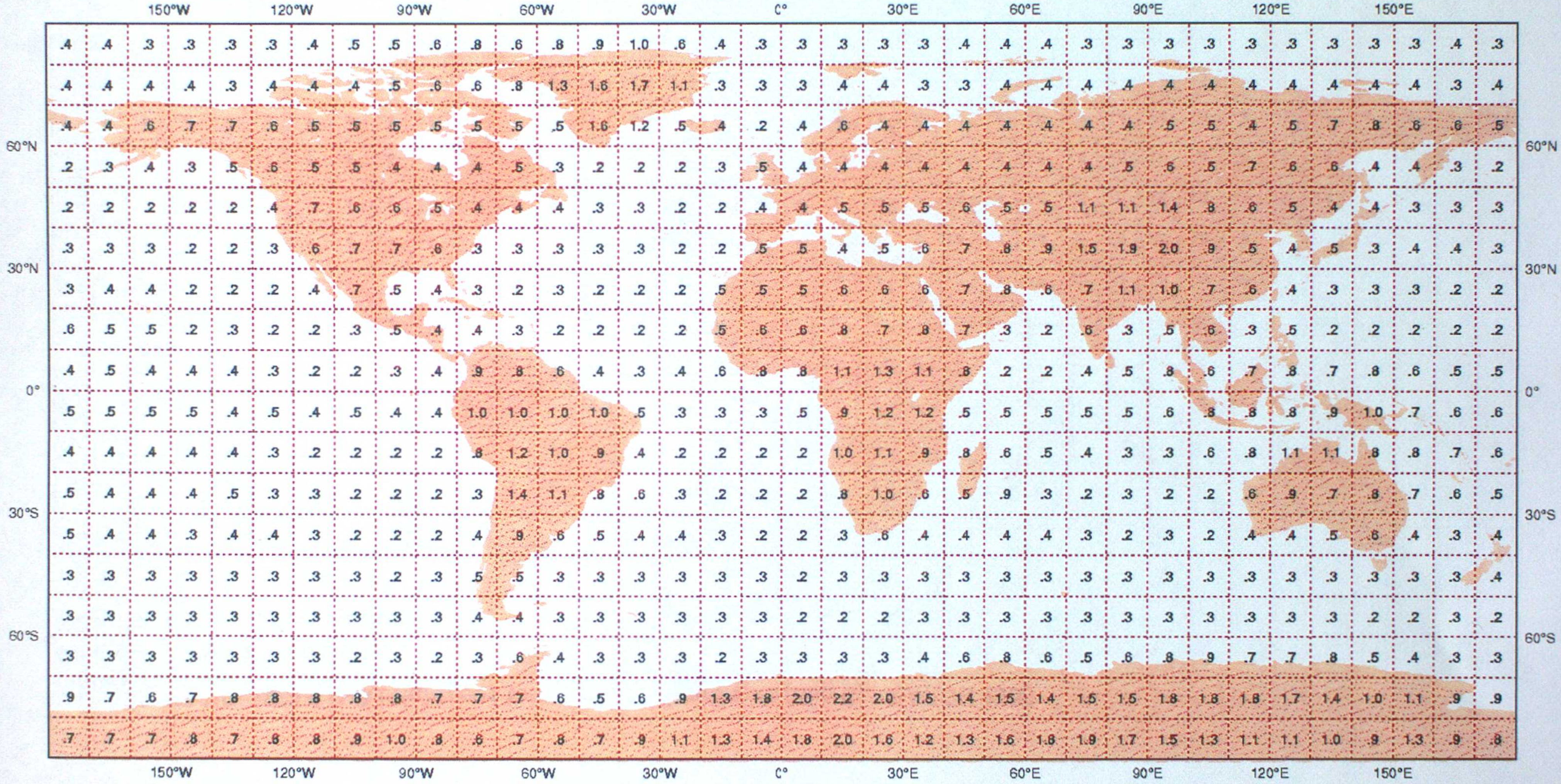
1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2
1.2	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.2	1.3	1.4	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.3	1.1	1.1	1.2	1.4	1.4	1.3	1.3	1.3	1.2	1.0	1.0	1.0	1.1	1.3	1.3
1.5	1.5	1.3	1.2	1.2	1.4	1.4	1.4	1.3	1.2	1.2	1.2	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.2	1.2	1.4	1.5	1.7	1.6	1.4	1.3	1.2	1.1	1.1	1.1	1.2	1.3	1.3	1.4
2.0	1.7	1.6	1.3	1.3	1.5	1.9	1.9	1.9	2.0	1.7	1.4	1.5	1.8	1.9	1.7	1.6	1.8	1.8	1.6	1.5	1.7	1.9	2.0	1.8	1.6	1.4	1.4	1.3	1.2	1.2	1.2	1.4	1.7	1.9	2.1
1.6	1.9	2.2	1.5	1.4	1.4	1.8	2.2	2.6	2.3	1.8	1.4	1.6	1.8	1.7	1.6	1.5	1.5	1.5	1.3	1.3	1.4	1.6	2.0	1.8	1.8	2.3	2.2	2.0	1.8	1.5	1.7	1.9	2.2	2.3	2.0
1.8	2.6	2.8	2.0	1.7	1.5	1.6	2.0	1.9	1.3	1.3	1.2	1.3	1.4	1.2	1.2	1.1	1.4	1.4	1.3	1.0	1.1	1.2	1.2	1.2	1.8	1.9	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
2.6	3.2	3.0	2.0	1.9	1.8	1.6	1.8	1.4	1.4	1.9	1.7	1.5	1.3	1.5	1.4	1.4	1.8	1.9	2.0	2.0	1.6	1.4	1.0	1.0	1.5	1.9	3.0	2.8	2.1	2.5	2.4	2.6	2.3	1.6	1.2
2.5	2.7	2.3	2.1	1.9	2.1	1.3	1.3	2.2	2.7	4.2	3.8	2.9	2.8	2.1	2.4	3.3	3.8	3.8	4.3	4.7	3.2	1.8	1.3	1.6	3.4	4.2	5.4	4.0	4.2	4.7	5.3	5.0	4.6	3.6	2.8
3.6	3.2	3.3	3.2	2.9	3.0	3.1	3.2	2.8	2.3	4.5	4.9	4.9	5.1	3.0	2.0	1.6	2.2	3.1	4.3	5.1	4.6	3.2	3.6	3.5	3.7	3.8	4.9	5.2	5.0	5.2	4.9	5.2	5.0	4.3	3.7
3.4	3.5	3.5	3.3	2.7	2.1	1.7	1.5	1.7	1.3	3.8	4.9	5.3	4.8	2.8	1.2	1.1	1.1	1.5	4.7	4.5	4.6	4.3	4.2	3.5	2.7	2.0	2.8	4.9	5.5	6.0	6.2	5.3	5.5	5.1	4.5
3.8	2.8	3.2	3.2	3.4	2.3	1.7	1.1	1.0	1.0	1.0	3.5	4.3	3.1	2.9	1.7	1.3	1.2	1.0	1.9	2.4	2.2	2.5	4.7	2.1	1.7	1.3	1.2	1.4	2.2	3.1	2.4	3.4	3.3	3.1	3.4
2.9	2.6	2.5	2.3	2.3	2.1	1.7	1.4	1.3	1.2	1.0	1.5	1.8	1.9	2.2	2.2	1.6	1.5	1.3	1.2	1.4	1.8	1.7	1.9	2.0	1.5	1.5	1.3	1.2	1.2	1.5	1.3	1.4	1.9	1.8	1.8
1.4	1.7	1.6	1.7	1.9	1.6	1.5	1.6	1.4	1.3	1.6	1.7	1.4	1.5	1.8	1.9	1.8	1.6	1.5	1.3	1.3	1.5	1.7	1.8	1.7	1.7	1.5	1.4	1.4	1.3	1.4	1.4	1.5	1.5	1.5	1.6
1.2	1.2	1.3	1.4	1.5	1.3	1.3	1.3	1.3	1.2	1.5	1.6	1.4	1.4	1.5	1.5	1.5	1.4	1.3	1.2	1.1	1.2	1.2	1.4	1.4	1.4	1.5	1.4	1.3	1.3	1.4	1.4	1.3	1.4	1.3	1.2
1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.1	1.1	1.0	1.1	1.1	1.2	1.2	1.2	1.1	1.1	1.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Figure 49. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



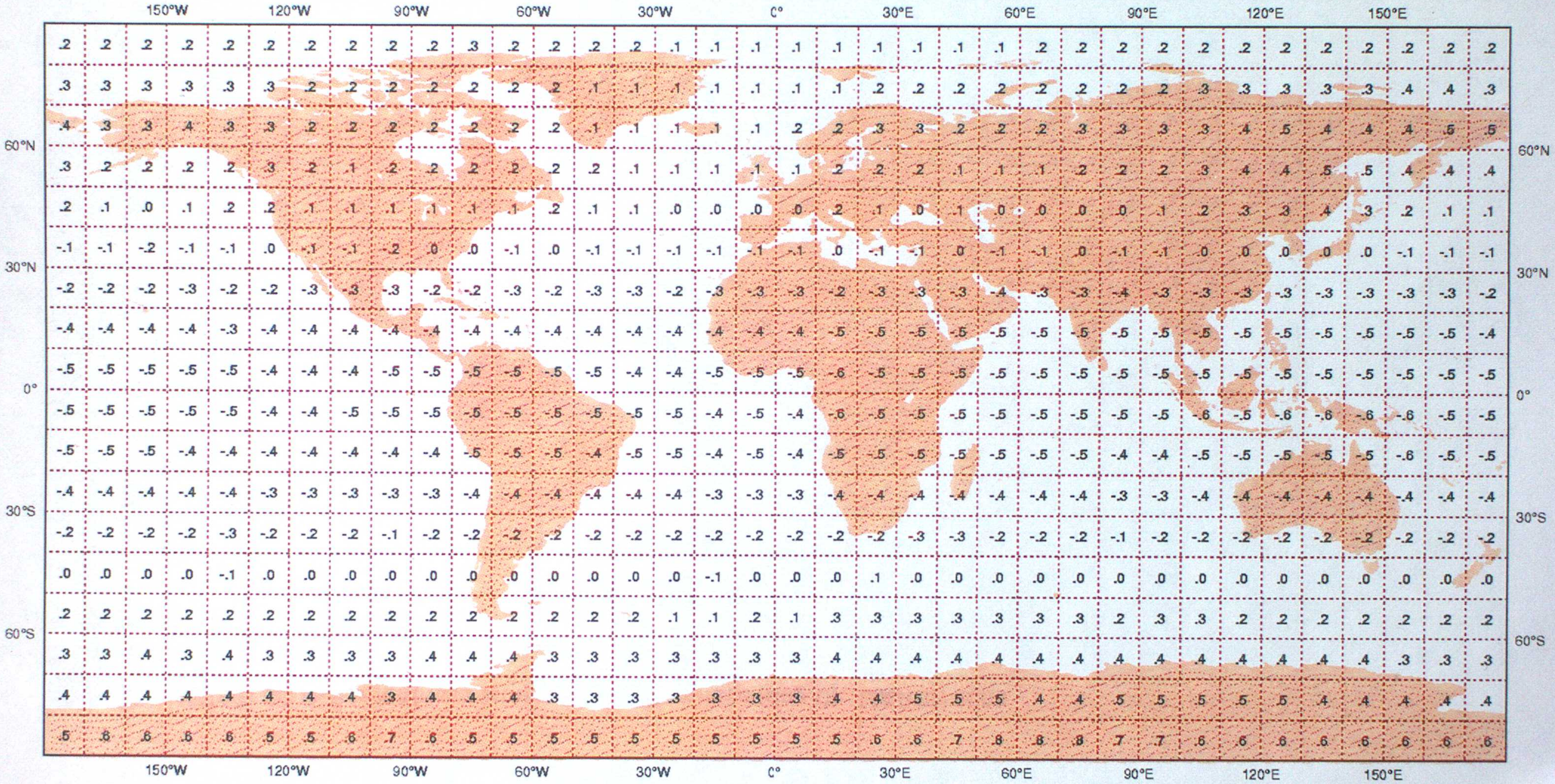
-.1	.0	-.2	-.3	-.3	-.2	-.3	-.6	-.5	-.5	-.1	-.5	-.6	-.8	-.5	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.3	-.2	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2
-.1	-.1	-.1	-.1	.0	.0	-.3	-.4	-.5	-.6	-.1	-.2	-1.0	-2.7	-2.9	-.3	-.1	.1	.2	.1	.0	.1	.1	-.1	.0	-.1	-.3	-.4	-.4	-.2	-.3	-.3	-.3	-.2	-.2	-.2
.0	-.2	-.3	-.3	-.5	-.5	-.6	-.7	-.4	-.2	-.2	-.2	-.1	-1.0	-.2	.1	.0	.1	.0	-.1	-.3	-.3	-.1	-.1	-.3	-.5	-.3	-.3	-.6	-.4	-.6	-.8	-.8	-.3	-.3	-.2
.1	.1	-.1	.0	-.2	-.2	-.2	-.3	-.3	-.1	-.2	-.2	.0	.1	.1	.1	.0	-.2	-.1	-.2	-.2	-.2	-.3	-.3	-.3	-.4	-.2	-.1	-.1	-.5	-.6	-.4	.0	-.1	.0	.1
.0	.0	.1	.0	.0	-.2	-.2	.0	-.3	-.3	-.1	-.1	.0	.1	.1	.0	.0	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.4	.3	1.0	.7	.5	.0	-.1	-.1	.0	.1	.0
.0	-.1	-.1	.0	.0	-.1	.1	.2	-.3	-.2	-.1	.0	.0	.0	.0	.0	-.1	.0	.1	.0	-.2	.0	.0	.3	.0	-.8	-.8	-.3	.2	.1	-.1	-.2	-.1	-.1	-.1	-.1
-.1	-.2	-.2	-.1	-.2	-.2	-.2	.3	-.2	-.3	-.2	-.1	-.1	-.1	-.1	-.1	.1	.3	.4	.0	.0	.0	.2	-.1	-.1	-.1	-.4	-.7	-.2	-.3	-.2	-.2	-.1	-.1	-.1	-.1
-.4	-.5	-.4	-.3	-.3	-.2	-.3	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.1	.0	-.1	-.2	.3	.3	.0	-.3	-.3	-.3	-.3	-.4	-.4	-.2	-.4	-.2	-.2	-.2	-.2	-.2
-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.8	-.6	-.5	-.3	-.2	-.3	-.4	-.5	-.4	-.7	-.6	.1	.2	-.4	-.4	-.4	-.5	-.7	-.6	-.7	-.7	-.7	-.7	-.6	-.5	-.4
-.5	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.3	-.3	-1.2	-1.2	-1.2	-.9	-.3	-.2	-.2	-.3	-.4	-.8	-1.1	-.8	-.4	-.5	-.5	-.5	-.5	-.6	-.8	-.9	-.7	-1.0	-1.1	-.7	-.6	-.5
-.5	-.5	-.5	-.5	-.4	-.4	-.3	-.2	-.2	-.2	-.5	-.8	-1.0	-.8	-.3	-.2	-.2	-.2	-.2	-.5	-.9	-.7	-.6	-.5	-.4	-.3	-.2	-.2	-.4	-.6	-.7	-.8	-.7	-.6	-.6	-.5
-.4	-.4	-.4	-.5	-.4	-.4	-.3	-.2	-.2	-.1	-.2	.1	-.5	-.5	-.5	-.3	-.2	-.2	-.2	.1	-.2	-.3	-.3	-.5	-.3	-.2	-.2	-.2	-.2	.0	.0	.2	.0	-.4	-.4	-.4
-.3	-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.1	-.1	.0	.2	-.2	-.2	-.3	-.2	-.2	-.1	-.1	.0	.1	-.2	-.2	-.3	-.2	-.2	-.1	-.1	-.1	-.1	.0	.0	.2	-.1	-.1	-.2
.0	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	-.1	.0	.0	-.1	-.1	-.1	-.1	.0	.0	.1	.0	.0	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1
.1	.1	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.1	.0
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	-.1	.1	.1	.0	.0	.1	.1	.1	.1	.1	.0	-.2	-.2	-.1	.0	-.1	-.1	-.2	-.1	-.1	.0	.0	.1	.1
-.6	-.2	.0	-.1	-.1	-.1	.1	.1	.1	.2	.0	-.1	-.2	-.1	-.2	-.5	-.7	-1.3	-2.2	-2.3	-1.9	-1.8	-2.0	-1.8	-1.5	-2.0	-2.0	-1.6	-2.1	-2.4	-2.1	-1.4	-1.0	-.7	-.2	-.7
-.4	-.3	-.4	-.1	-.1	-.3	-.1	.3	.7	.4	-.1	-.3	-.3	-.4	-.6	-.7	-1.0	-1.6	-2.2	-2.6	-2.4	-2.4	-2.6	-2.9	-3.1	-3.2	-3.3	-3.3	-3.2	-3.0	-2.9	-2.6	-2.0	-.6	-.4	-.5

Figure 50. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



.4	.4	.3	.3	.3	.3	.4	.5	.5	.6	.8	.6	.8	.9	1.0	.6	.4	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3
.4	.4	.4	.4	.3	.4	.4	.4	.5	.6	.6	.8	1.3	1.6	1.7	1.1	.3	.3	.3	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4
.4	.4	.6	.7	.7	.6	.5	.5	.5	.5	.5	.5	.5	1.6	1.2	.5	.4	.2	.4	.6	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.5	.7	.8	.6	.6	.5
.2	.3	.4	.3	.5	.6	.5	.5	.4	.4	.4	.5	.3	.2	.2	.2	.3	.5	.4	.4	.4	.4	.4	.4	.4	.4	.5	.6	.5	.7	.6	.6	.4	.4	.3	.2
.2	.2	.2	.2	.2	.4	.7	.6	.6	.5	.4	.4	.4	.3	.3	.2	.2	.4	.4	.5	.5	.5	.6	.5	.5	1.1	1.1	1.4	.8	.6	.5	.4	.4	.3	.3	.3
.3	.3	.3	.2	.2	.3	.6	.7	.7	.6	.3	.3	.3	.3	.3	.2	.2	.5	.5	.4	.5	.6	.7	.8	.9	1.5	1.9	2.0	.9	.5	.4	.5	.3	.4	.4	.3
.3	.4	.4	.2	.2	.2	.4	.7	.5	.4	.3	.2	.3	.2	.2	.2	.5	.5	.5	.6	.6	.6	.7	.8	.6	.7	1.1	1.0	.7	.6	.4	.3	.3	.3	.2	.2
.6	.5	.5	.2	.3	.2	.2	.3	.5	.4	.4	.3	.2	.2	.2	.2	.5	.6	.6	.8	.7	.8	.7	.3	.2	.6	.3	.5	.6	.3	.5	.2	.2	.2	.2	.2
.4	.5	.4	.4	.4	.3	.2	.2	.3	.4	.9	.8	.6	.4	.3	.4	.6	.8	.8	1.1	1.3	1.1	.8	.2	.2	.4	.5	.8	.6	.7	.8	.7	.8	.6	.5	.5
.5	.5	.5	.5	.4	.5	.4	.5	.4	.4	1.0	1.0	1.0	1.0	.5	.3	.3	.3	.5	.9	1.2	1.2	.5	.5	.5	.5	.5	.6	.8	.8	.8	.9	1.0	.7	.6	.6
.4	.4	.4	.4	.4	.3	.2	.2	.2	.2	.8	1.2	1.0	.9	.4	.2	.2	.2	.2	1.0	1.1	.9	.8	.6	.5	.4	.3	.3	.6	.8	1.1	1.1	.8	.8	.7	.6
.5	.4	.4	.4	.5	.3	.3	.2	.2	.2	.3	1.4	1.1	.8	.6	.3	.2	.2	.2	.8	1.0	.6	.5	.9	.3	.2	.3	.2	.2	.6	.9	.7	.8	.7	.6	.5
.5	.4	.4	.3	.4	.4	.3	.2	.2	.2	.4	.9	.6	.5	.4	.4	.3	.2	.2	.3	.6	.4	.4	.4	.4	.3	.2	.3	.2	.4	.4	.5	.6	.4	.3	.4
.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.5	.5	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.2
.3	.3	.3	.3	.3	.3	.3	.2	.3	.2	.3	.6	.4	.3	.3	.3	.2	.3	.3	.3	.3	.4	.6	.8	.6	.5	.6	.8	.9	.7	.7	.8	.5	.4	.3	.3
.9	.7	.6	.7	.8	.8	.8	.8	.8	.7	.7	.7	.6	.5	.6	.9	1.3	1.8	2.0	2.2	2.0	1.5	1.4	1.5	1.4	1.5	1.5	1.8	1.8	1.8	1.7	1.4	1.0	1.1	.9	.9
.7	.7	.7	.8	.7	.8	.8	.9	1.0	.8	.6	.7	.8	.7	.9	1.1	1.3	1.4	1.8	2.0	1.6	1.2	1.3	1.6	1.8	1.9	1.7	1.5	1.3	1.1	1.1	1.0	.9	1.3	.9	.8

Figure 51. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations



.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.4	.4	.3
.4	.3	.3	.4	.3	.3	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.2	.2	.3	.3	.2	.2	.2	.3	.3	.3	.3	.4	.5	.4	.4	.4	.5	.5
.3	.2	.2	.2	.2	.3	.2	.1	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.2	.2	.2	.1	.1	.1	.2	.2	.2	.3	.4	.4	.5	.5	.4	.4	.4
.2	.1	.0	.1	.2	.2	.1	.1	.1	.1	.1	.1	.2	.1	.1	.0	.0	.0	.0	.2	.1	.0	.1	.0	.0	.0	.0	.1	.2	.3	.3	.4	.3	.2	.1	.1
-.1	-.1	-.2	-.1	-.1	.0	-.1	-.1	-.2	.0	.0	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	.0	-.1	-.1	.0	-.1	-.1	.0	-.1	-.1	.0	.0	.0	.0	.0	-.1	-.1	-.1
-.2	-.2	-.2	-.3	-.2	-.2	-.3	-.3	-.3	-.2	-.2	-.3	-.2	-.3	-.3	-.2	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.4	-.3	-.3	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2
-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4
-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.4	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.5	-.6	-.6	-.6	-.6	-.5	-.5
-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.5	-.5	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.6	-.5	-.5
-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4
-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2
.0	.0	.0	.0	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2	.1	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2
.3	.3	.4	.3	.4	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3
.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.5	.5	.5	.4	.4	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4
.5	.6	.6	.6	.6	.5	.5	.6	.7	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.6	.6	.7	.8	.8	.8	.7	.7	.6	.6	.6	.6	.6	.6	.6	.6

Figure 52. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations

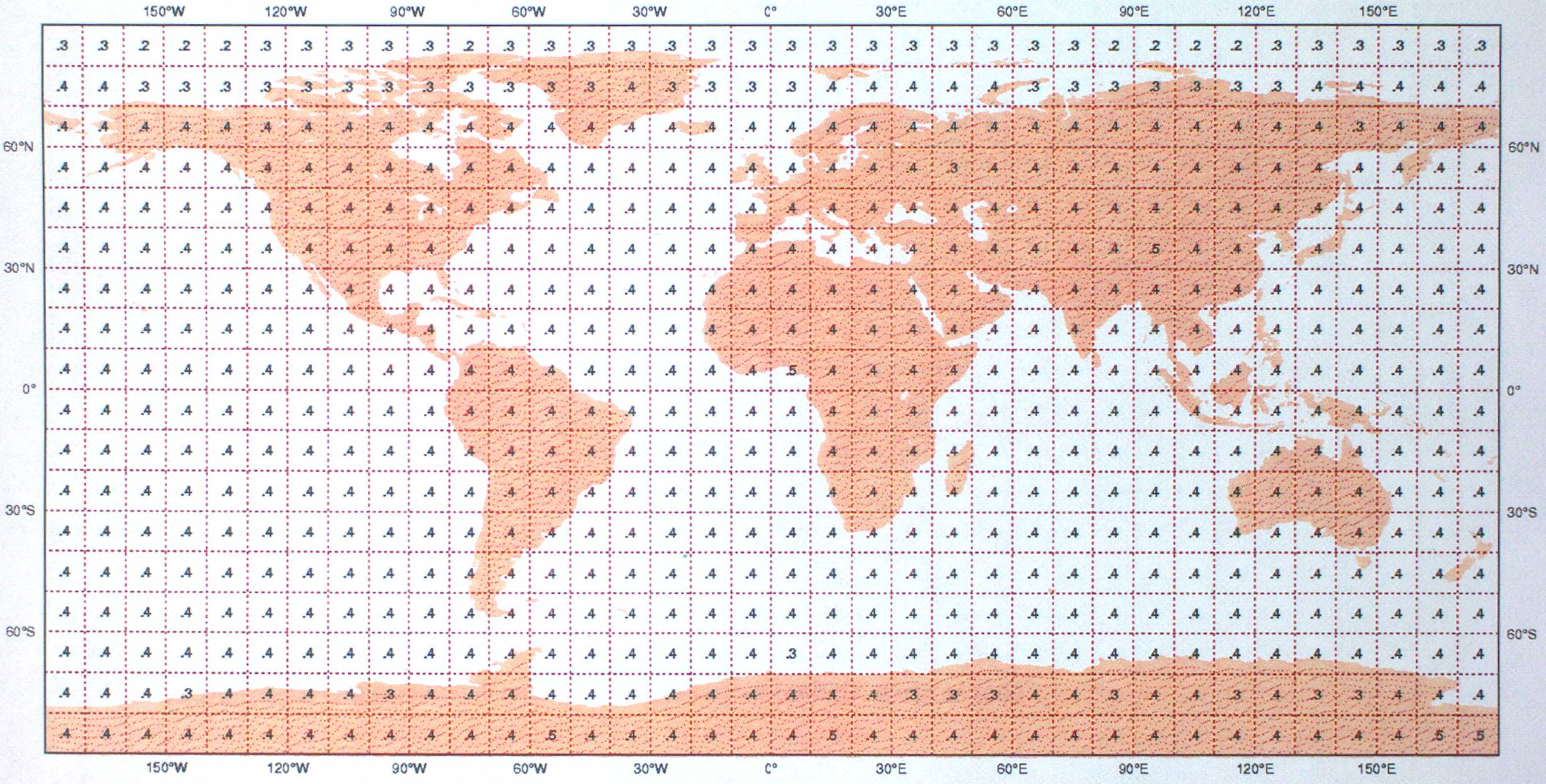
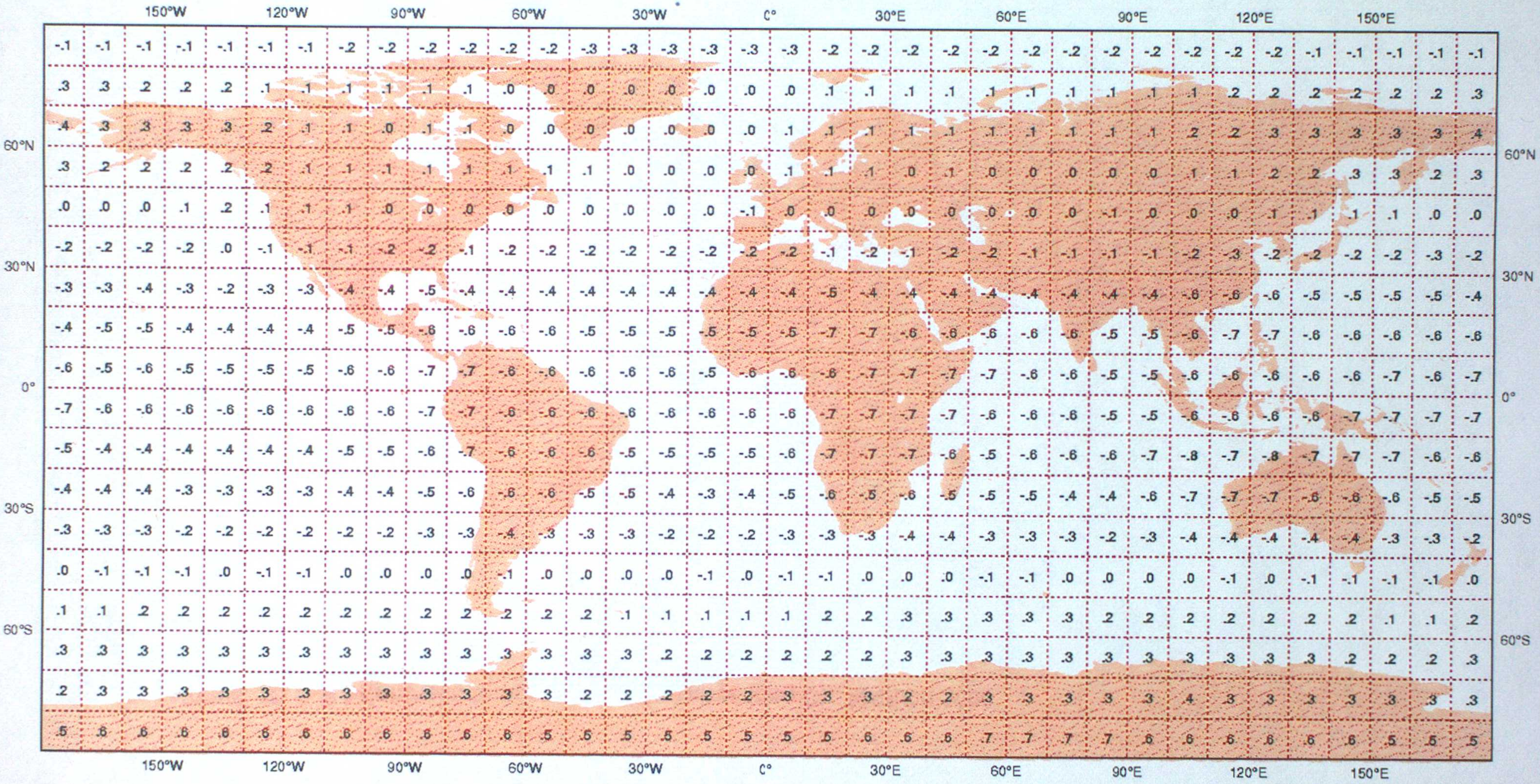

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 53. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations



-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1
.3	.3	.2	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.3
.4	.3	.3	.3	.3	.2	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.3	.3	.3	.3	.3	.4
.3	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.0	.1	.0	.0	.0	.0	.0	.1	.1	.2	.2	.3	.3	.2	.3
.0	.0	.0	.1	.2	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.0	.0	.1	.1	.1	.1	.0	.0
-.2	-.2	-.2	-.2	.0	-.1	-.1	-.1	-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.3	-.2	-.2	-.2	-.2	-.3	-.2
-.3	-.3	-.4	-.3	-.2	-.3	-.3	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.4
-.4	-.5	-.5	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6
-.6	-.5	-.6	-.5	-.5	-.5	-.5	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.7
-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7
-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.7	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.6	-.7	-.7	-.7	-.6	-.5	-.6	-.6	-.6	-.7	-.8	-.7	-.8	-.7	-.7	-.7	-.6	-.6
-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.5	-.6	-.6	-.6	-.5	-.5	-.4	-.3	-.4	-.5	-.6	-.5	-.6	-.5	-.5	-.5	-.4	-.4	-.6	-.7	-.7	-.7	-.6	-.6	-.6	-.5	-.5
-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.4	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.3	-.2	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.2
.0	-.1	-.1	-.1	.0	-.1	-.1	.0	.0	.0	.0	-.1	.0	.0	.0	.0	-.1	.0	-.1	-.1	.0	.0	.0	-.1	-.1	.0	.0	.0	.0	-.1	.0	-.1	-.1	-.1	-.1	.0
.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.2	.2	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3
.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.3	.3	.3	.2	.2	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3
.5	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6	.5	.5	.5

Figure 54. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations

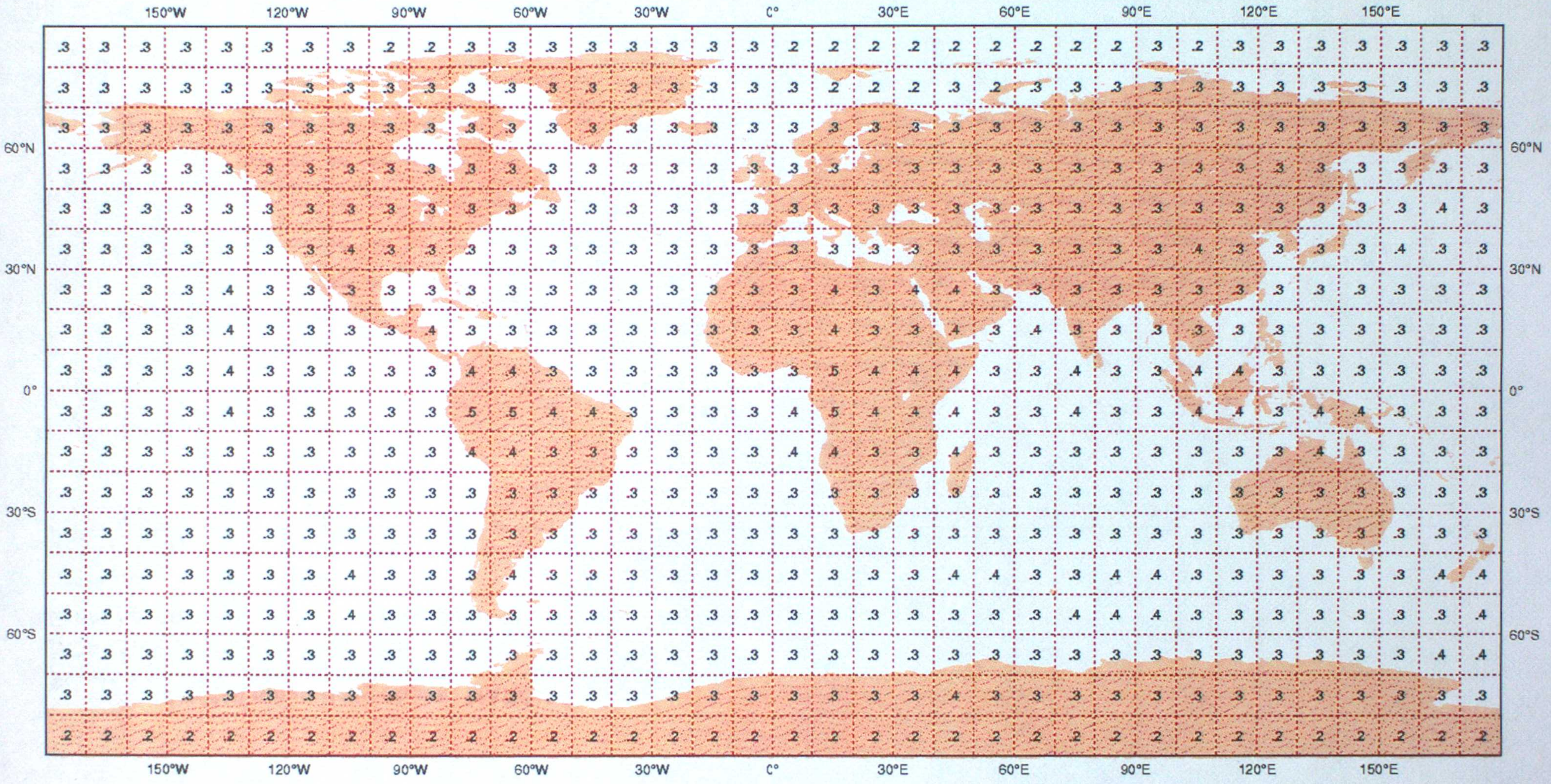
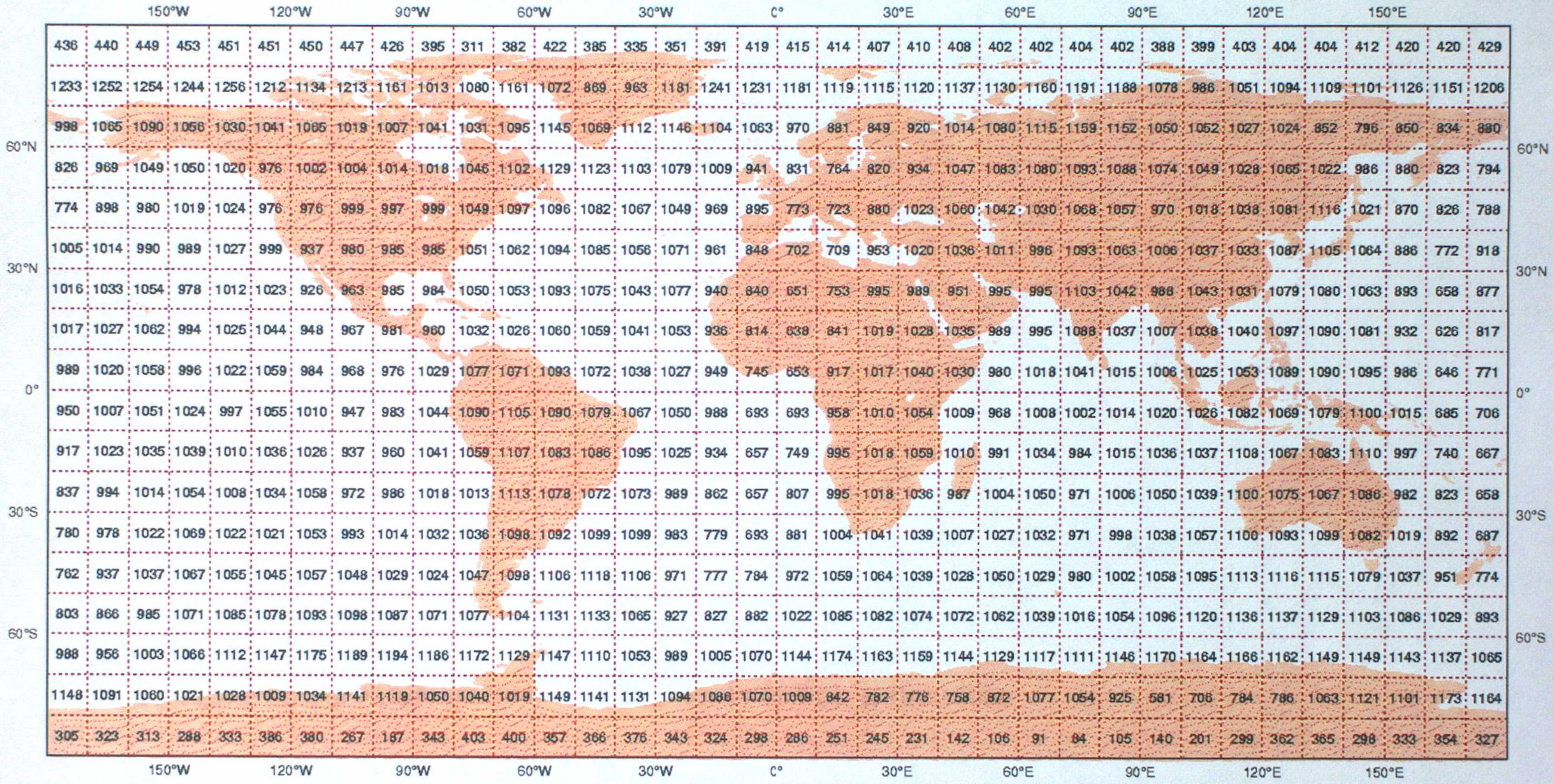
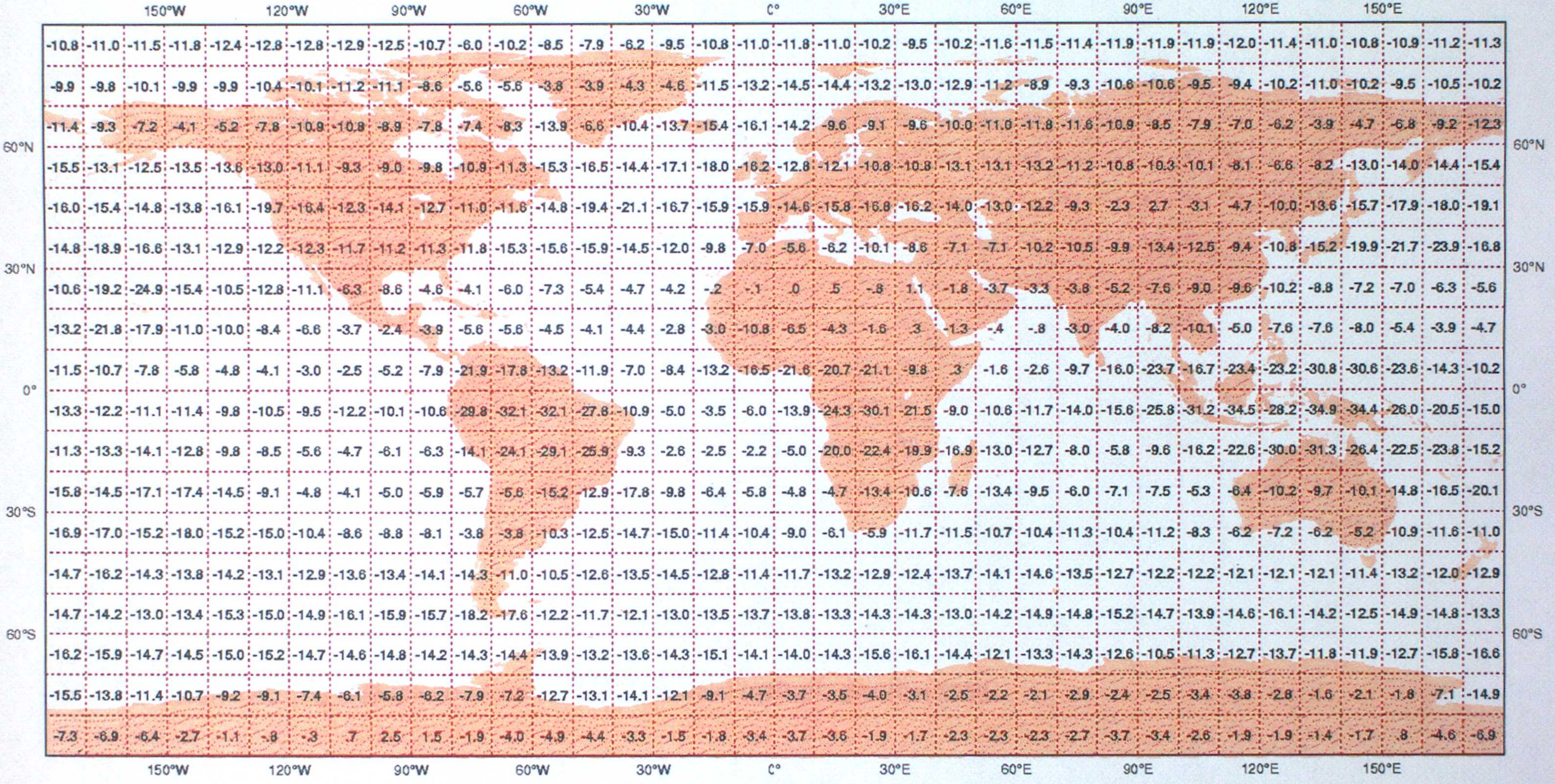

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .3 .3 .3 .3 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .3 .2 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .2 .2 .2 .3 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3
.3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .4 .3 .3
.3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .4 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .4 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3 .3 .5 .4 .4 .4 .3 .3 .4 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .5 .5 .4 .4 .3 .3 .3 .3 .4 .5 .4 .4 .4 .3 .3 .4 .3 .3 .4 .4 .3 .4 .4 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3 .4 .4
.3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .4
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2

Figure 55. ATOVS mean daily count. MARCH 2006
NOAA18, using all observations
Global average number of observations in 24 hours = 609494



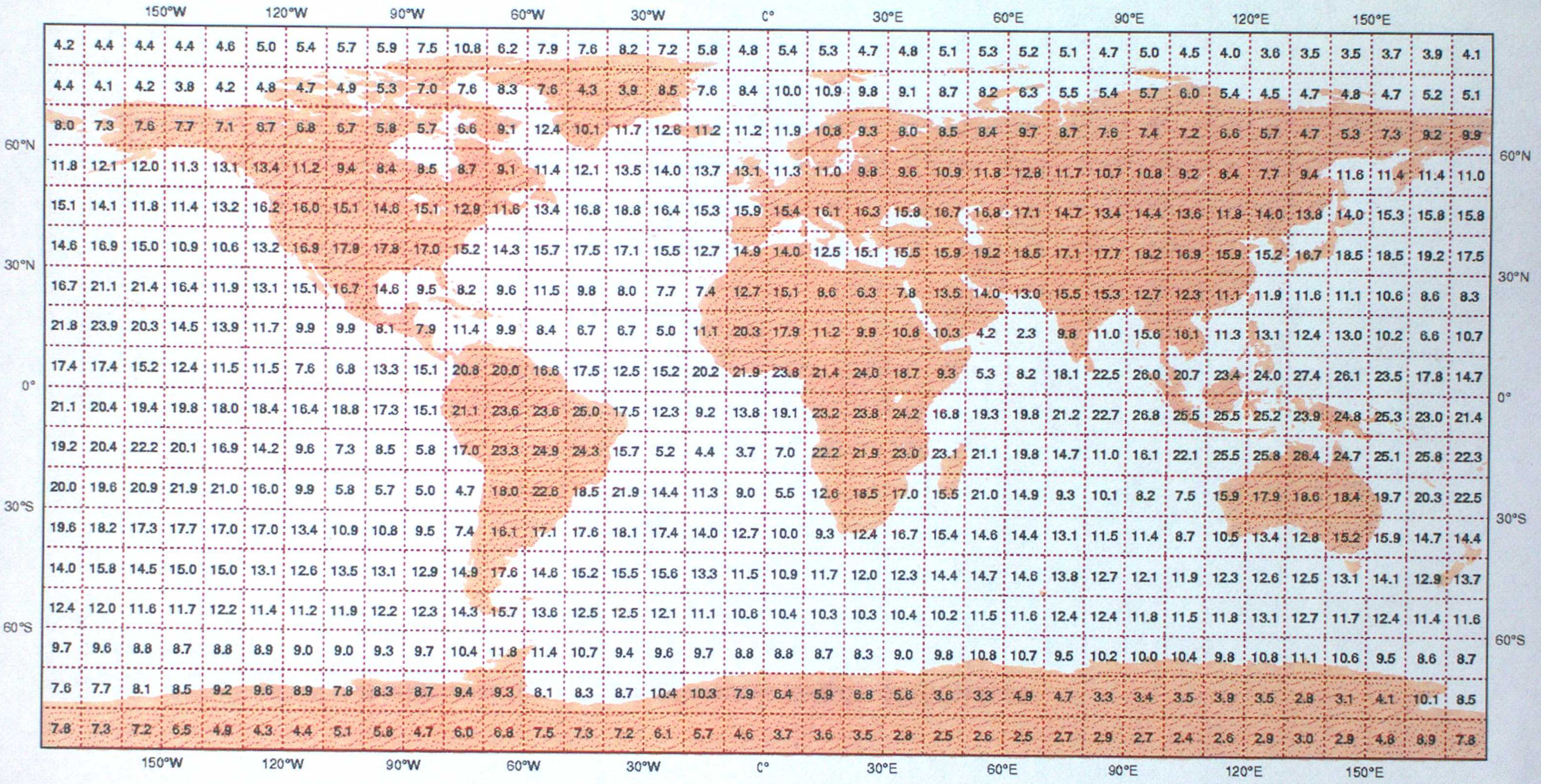
436	440	449	453	451	451	450	447	426	395	311	382	422	385	335	351	391	419	415	414	407	410	408	402	402	404	402	388	399	403	404	404	412	420	420	429
1233	1252	1254	1244	1256	1212	1134	1213	1161	1013	1080	1161	1072	869	963	1181	1241	1231	1181	1119	1115	1120	1137	1130	1160	1191	1188	1078	986	1051	1094	1109	1101	1126	1151	1206
998	1065	1090	1056	1030	1041	1065	1019	1007	1041	1031	1095	1145	1069	1112	1146	1104	1063	970	881	849	920	1014	1080	1115	1159	1152	1050	1052	1027	1024	852	796	850	834	880
826	969	1049	1050	1020	976	1002	1004	1014	1018	1046	1102	1129	1123	1103	1079	1009	941	831	764	820	934	1047	1083	1080	1093	1088	1074	1049	1028	1065	1022	986	880	823	794
774	898	980	1019	1024	976	976	999	997	999	1049	1097	1096	1082	1067	1049	969	895	773	723	880	1023	1060	1042	1030	1068	1057	970	1018	1038	1081	1116	1021	870	826	788
1005	1014	990	989	1027	999	937	980	985	985	1051	1062	1094	1085	1056	1071	961	848	702	709	953	1020	1036	1011	996	1093	1063	1006	1037	1033	1087	1105	1064	886	772	918
1016	1033	1054	978	1012	1023	926	963	985	984	1050	1053	1093	1075	1043	1077	940	840	651	753	995	989	951	995	995	1103	1042	988	1043	1031	1079	1080	1063	893	658	877
1017	1027	1062	994	1025	1044	948	967	981	960	1032	1026	1060	1059	1041	1053	936	814	638	841	1019	1028	1035	989	995	1088	1037	1007	1038	1040	1097	1090	1081	932	626	817
989	1020	1058	996	1022	1059	984	968	976	1029	1077	1071	1093	1072	1038	1027	949	745	653	917	1017	1040	1030	980	1018	1041	1015	1006	1025	1053	1089	1090	1095	986	646	771
950	1007	1051	1024	997	1055	1010	947	983	1044	1090	1105	1090	1079	1067	1050	988	693	693	958	1010	1054	1009	968	1008	1002	1014	1020	1026	1082	1069	1079	1100	1015	685	706
917	1023	1035	1039	1010	1036	1026	937	960	1041	1059	1107	1083	1086	1095	1025	934	657	749	995	1018	1059	1010	991	1034	984	1015	1036	1037	1108	1067	1083	1110	997	740	667
837	994	1014	1054	1008	1034	1058	972	986	1018	1013	1113	1078	1072	1073	989	862	657	807	995	1018	1036	987	1004	1050	971	1006	1050	1039	1100	1075	1067	1086	982	823	658
780	978	1022	1069	1022	1021	1053	993	1014	1032	1036	1098	1092	1099	1099	983	779	693	881	1004	1041	1039	1007	1027	1032	971	998	1038	1057	1100	1093	1099	1082	1019	892	687
762	937	1037	1067	1055	1045	1057	1048	1029	1024	1047	1098	1106	1118	1106	971	777	784	972	1059	1064	1039	1028	1050	1029	980	1002	1058	1095	1113	1116	1115	1079	1037	951	774
803	866	985	1071	1085	1078	1093	1098	1087	1071	1077	1104	1131	1133	1065	927	827	882	1022	1085	1082	1074	1072	1062	1039	1016	1054	1096	1120	1136	1137	1129	1103	1086	1029	893
988	956	1003	1066	1112	1147	1175	1189	1194	1186	1172	1129	1147	1110	1053	989	1005	1070	1144	1174	1163	1159	1144	1129	1117	1111	1146	1170	1164	1166	1162	1149	1149	1143	1137	1065
1148	1091	1060	1021	1028	1009	1034	1141	1119	1050	1040	1019	1149	1141	1131	1094	1086	1070	1009	842	782	776	758	872	1077	1054	925	581	706	784	786	1063	1121	1101	1173	1164
305	323	313	288	333	386	380	267	187	343	403	400	357	366	376	343	324	298	286	251	245	231	142	106	91	84	105	140	201	299	362	365	298	333	354	327

Figure 56. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS8 (Surface)
NOAA18, using all observations



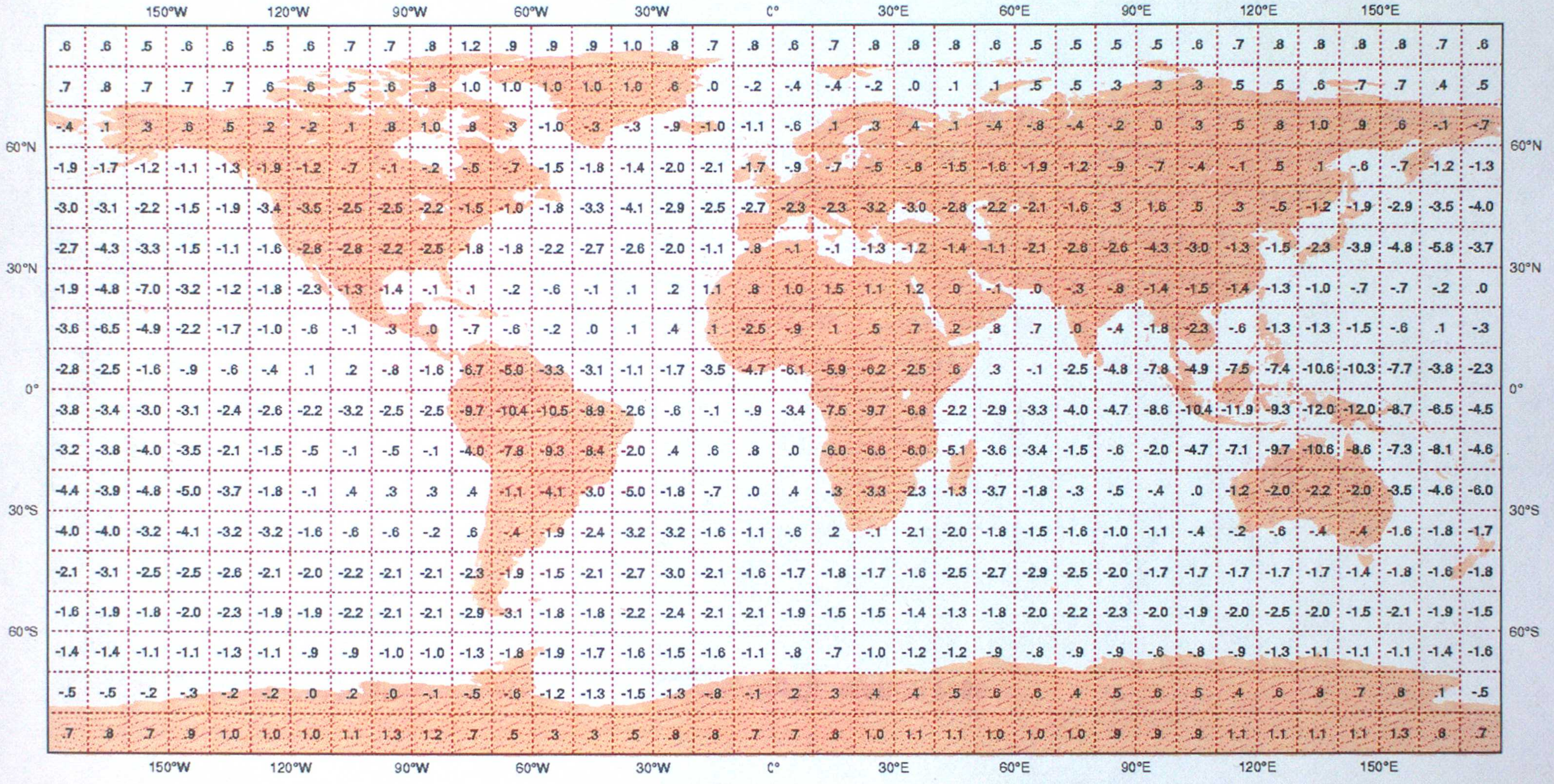
-10.8	-11.0	-11.5	-11.8	-12.4	-12.8	-12.8	-12.9	-12.5	-10.7	-6.0	-10.2	-8.5	-7.9	-6.2	-9.5	-10.8	-11.0	-11.8	-11.0	-10.2	-9.5	-10.2	-11.6	-11.5	-11.4	-11.9	-11.9	-11.9	-12.0	-11.4	-11.0	-10.8	-10.9	-11.2	-11.3
-9.9	-9.8	-10.1	-9.9	-9.9	-10.4	-10.1	-11.2	-11.1	-8.6	-5.6	-5.6	-3.8	-3.9	-4.3	-4.6	-11.5	-13.2	-14.5	-14.4	-13.2	-13.0	-12.9	-11.2	-8.9	-9.3	-10.6	-10.6	-9.5	-9.4	-10.2	-11.0	-10.2	-9.5	-10.5	-10.2
-11.4	-9.3	-7.2	-4.1	-5.2	-7.8	-10.9	-10.8	-8.9	-7.8	-7.4	-8.3	-13.9	-6.6	-10.4	-13.7	-15.4	-16.1	-14.2	-9.6	-9.1	-9.6	-10.0	-11.0	-11.8	-11.6	-10.9	-8.5	-7.9	-7.0	-6.2	-3.9	-4.7	-6.8	-9.2	-12.3
-15.5	-13.1	-12.5	-13.5	-13.6	-13.0	-11.1	-9.3	-9.0	-9.8	-10.9	-11.3	-15.3	-16.5	-14.4	-17.1	-18.0	-16.2	-12.8	-12.1	-10.8	-10.8	-13.1	-13.1	-13.2	-11.2	-10.8	-10.3	-10.1	-8.1	-6.6	-8.2	-13.0	-14.0	-14.4	-15.4
-16.0	-15.4	-14.8	-13.8	-16.1	-19.7	-16.4	-12.3	-14.1	-12.7	-11.0	-11.6	-14.8	-19.4	-21.1	-16.7	-15.9	-15.9	-14.6	-15.8	-16.8	-16.2	-14.0	-13.0	-12.2	-9.3	-2.3	2.7	-3.1	-4.7	-10.0	-13.6	-15.7	-17.9	-18.0	-19.1
-14.8	-18.9	-16.6	-13.1	-12.9	-12.2	-12.3	-11.7	-11.2	-11.3	-11.8	-15.3	-15.6	-15.9	-14.5	-12.0	-9.8	-7.0	-5.6	-6.2	-10.1	-8.6	-7.1	-7.1	-10.2	-10.5	-9.9	-13.4	-12.5	-9.4	-10.8	-15.2	-19.9	-21.7	-23.9	-16.8
-10.6	-19.2	-24.9	-15.4	-10.5	-12.8	-11.1	-6.3	-8.6	-4.6	-4.1	-6.0	-7.3	-5.4	-4.7	-4.2	-.2	-.1	.0	.5	-.8	1.1	-1.8	-3.7	-3.3	-3.8	-5.2	-7.6	-9.0	-9.6	-10.2	-8.8	-7.2	-7.0	-6.3	-5.6
-13.2	-21.8	-17.9	-11.0	-10.0	-8.4	-6.6	-3.7	-2.4	-3.9	-5.6	-5.6	-4.5	-4.1	-4.4	-2.8	-3.0	-10.8	-6.5	-4.3	-1.6	.3	-1.3	-.4	-.8	-3.0	-4.0	-8.2	-10.1	-5.0	-7.6	-7.6	-8.0	-5.4	-3.9	-4.7
-11.5	-10.7	-7.8	-5.8	-4.8	-4.1	-3.0	-2.5	-5.2	-7.9	-21.9	-17.8	-13.2	-11.9	-7.0	-8.4	-13.2	-16.5	-21.6	-20.7	-21.1	-9.8	.3	-1.6	-2.6	-9.7	-16.0	-23.7	-16.7	-23.4	-23.2	-30.8	-30.6	-23.6	-14.3	-10.2
-13.3	-12.2	-11.1	-11.4	-9.8	-10.5	-9.5	-12.2	-10.1	-10.6	-29.8	-32.1	-32.1	-27.8	-10.9	-5.0	-3.5	-6.0	-13.9	-24.3	-30.1	-21.5	-9.0	-10.6	-11.7	-14.0	-15.6	-25.8	-31.2	-34.5	-28.2	-34.9	-34.4	-26.0	-20.5	-15.0
-11.3	-13.3	-14.1	-12.8	-9.8	-8.5	-5.6	-4.7	-6.1	-6.3	-14.1	-24.1	-29.1	-25.9	-9.3	-2.6	-2.5	-2.2	-5.0	-20.0	-22.4	-19.9	-16.9	-13.0	-12.7	-8.0	-5.8	-9.6	-16.2	-22.6	-30.0	-31.3	-26.4	-22.5	-23.8	-15.2
-15.8	-14.5	-17.1	-17.4	-14.5	-9.1	-4.8	-4.1	-5.0	-5.9	-5.7	-5.6	-15.2	-12.9	-17.8	-9.8	-6.4	-5.8	-4.8	-4.7	-13.4	-10.6	-7.6	-13.4	-9.5	-6.0	-7.1	-7.5	-5.3	-6.4	-10.2	-9.7	-10.1	-14.8	-16.5	-20.1
-16.9	-17.0	-15.2	-18.0	-15.2	-15.0	-10.4	-8.6	-8.8	-8.1	-3.8	-3.8	-10.3	-12.5	-14.7	-15.0	-11.4	-10.4	-9.0	-6.1	-5.9	-11.7	-11.5	-10.7	-10.4	-11.3	-10.4	-11.2	-8.3	-6.2	-7.2	-6.2	-5.2	-10.9	-11.6	-11.0
-14.7	-16.2	-14.3	-13.8	-14.2	-13.1	-12.9	-13.6	-13.4	-14.1	-14.3	-11.0	-10.5	-12.6	-13.5	-14.5	-12.8	-11.4	-11.7	-13.2	-12.9	-12.4	-13.7	-14.1	-14.6	-13.5	-12.7	-12.2	-12.2	-12.1	-12.1	-12.1	-11.4	-13.2	-12.0	-12.9
-14.7	-14.2	-13.0	-13.4	-15.3	-15.0	-14.9	-16.1	-15.9	-15.7	-18.2	-17.6	-12.2	-11.7	-12.1	-13.0	-13.5	-13.7	-13.8	-13.3	-14.3	-14.3	-13.0	-14.2	-14.9	-14.8	-15.2	-14.7	-13.9	-14.6	-16.1	-14.2	-12.5	-14.9	-14.8	-13.3
-16.2	-15.9	-14.7	-14.5	-15.0	-15.2	-14.7	-14.6	-14.8	-14.2	-14.3	-14.4	-13.9	-13.2	-13.6	-14.3	-15.1	-14.1	-14.0	-14.3	-15.6	-16.1	-14.4	-12.1	-13.3	-14.3	-12.6	-10.5	-11.3	-12.7	-13.7	-11.8	-11.9	-12.7	-15.8	-16.6
-15.5	-13.8	-11.4	-10.7	-9.2	-9.1	-7.4	-6.1	-5.8	-6.2	-7.9	-7.2	-12.7	-13.1	-14.1	-12.1	-9.1	-4.7	-3.7	-3.5	-4.0	-3.1	-2.5	-2.2	-2.1	-2.9	-2.4	-2.5	-3.4	-3.8	-2.8	-1.6	-2.1	-1.8	-7.1	-14.9
-7.3	-6.9	-6.4	-2.7	-1.1	-.8	-.3	.7	2.5	1.5	-1.9	-4.0	-4.9	-4.4	-3.3	-1.5	-1.8	-3.4	-3.7	-3.6	-1.9	-1.7	-2.3	-2.3	-2.3	-2.7	-3.7	-3.4	-2.6	-1.9	-1.9	-1.4	-1.7	.8	-4.6	-6.9

Figure 57. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS8 (Surface)
NOAA18, using all observations



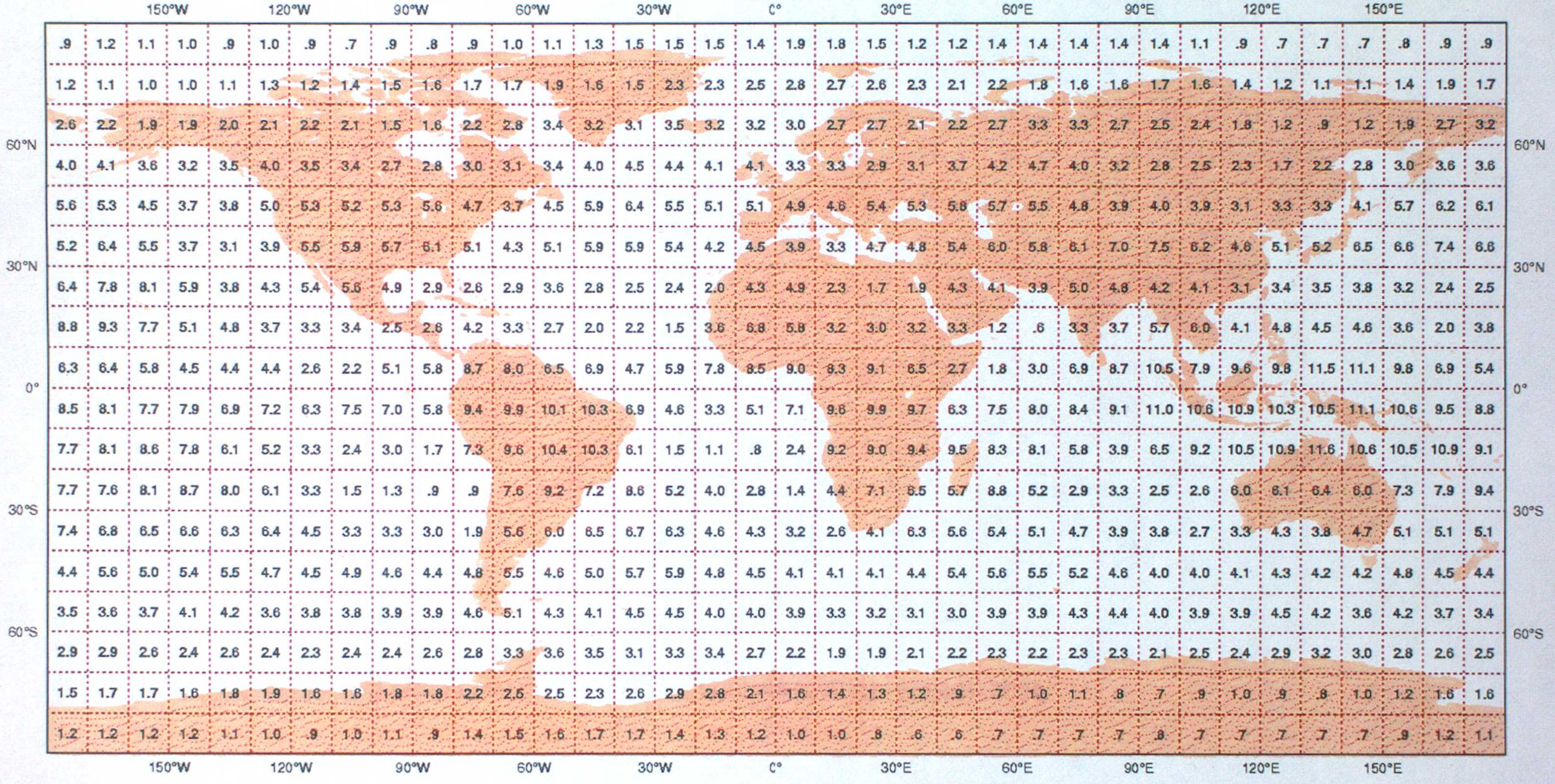
4.2	4.4	4.4	4.4	4.6	5.0	5.4	5.7	5.9	7.5	10.8	6.2	7.9	7.6	8.2	7.2	5.8	4.8	5.4	5.3	4.7	4.8	5.1	5.3	5.2	5.1	4.7	5.0	4.5	4.0	3.6	3.5	3.5	3.7	3.9	4.1
4.4	4.1	4.2	3.8	4.2	4.8	4.7	4.9	5.3	7.0	7.6	8.3	7.6	4.3	3.9	8.5	7.6	8.4	10.0	10.9	9.8	9.1	8.7	8.2	6.3	5.5	5.4	5.7	6.0	5.4	4.5	4.7	4.8	4.7	5.2	5.1
8.0	7.3	7.6	7.7	7.1	6.7	6.8	6.7	5.8	5.7	6.6	9.1	12.4	10.1	11.7	12.6	11.2	11.2	11.9	10.8	9.3	8.0	8.5	8.4	9.7	8.7	7.6	7.4	7.2	6.6	5.7	4.7	5.3	7.3	9.2	9.9
11.8	12.1	12.0	11.3	13.1	13.4	11.2	9.4	8.4	8.5	8.7	9.1	11.4	12.1	13.5	14.0	13.7	13.1	11.3	11.0	9.8	9.6	10.9	11.8	12.8	11.7	10.7	10.8	9.2	8.4	7.7	9.4	11.6	11.4	11.4	11.0
15.1	14.1	11.8	11.4	13.2	16.2	16.0	15.1	14.6	15.1	12.9	11.6	13.4	16.8	18.8	16.4	15.3	15.9	15.4	16.1	16.3	15.8	16.7	16.8	17.1	14.7	13.4	14.4	13.6	11.8	14.0	13.8	14.0	15.3	15.8	15.8
14.6	16.9	15.0	10.9	10.6	13.2	16.9	17.9	17.8	17.0	15.2	14.3	15.7	17.5	17.1	15.5	12.7	14.9	14.0	12.5	15.1	15.5	15.9	19.2	18.5	17.1	17.7	18.2	16.9	15.9	15.2	16.7	18.5	18.5	19.2	17.5
16.7	21.1	21.4	16.4	11.9	13.1	15.1	16.7	14.6	9.5	8.2	9.6	11.5	9.8	8.0	7.7	7.4	12.7	15.1	8.6	6.3	7.8	13.5	14.0	13.0	15.5	15.3	12.7	12.3	11.1	11.9	11.6	11.1	10.6	8.6	8.3
21.8	23.9	20.3	14.5	13.9	11.7	9.9	9.9	8.1	7.9	11.4	9.9	8.4	6.7	6.7	5.0	11.1	20.3	17.9	11.2	9.9	10.8	10.3	4.2	2.3	9.8	11.0	15.6	16.1	11.3	13.1	12.4	13.0	10.2	6.6	10.7
17.4	17.4	15.2	12.4	11.5	11.5	7.6	6.8	13.3	15.1	20.8	20.0	16.6	17.5	12.5	15.2	20.2	21.9	23.8	21.4	24.0	18.7	9.3	5.3	8.2	18.1	22.5	26.0	20.7	23.4	24.0	27.4	26.1	23.5	17.8	14.7
21.1	20.4	19.4	19.8	18.0	18.4	16.4	18.8	17.3	15.1	21.1	23.6	23.6	25.0	17.5	12.3	9.2	13.8	19.1	23.2	23.8	24.2	16.8	19.3	19.8	21.2	22.7	26.8	25.5	25.5	25.2	23.9	24.8	25.3	23.0	21.4
19.2	20.4	22.2	20.1	16.9	14.2	9.6	7.3	8.5	5.8	17.0	23.3	24.9	24.3	15.7	5.2	4.4	3.7	7.0	22.2	21.9	23.0	23.1	21.1	19.8	14.7	11.0	16.1	22.1	25.5	25.8	26.4	24.7	25.1	25.8	22.3
20.0	19.6	20.9	21.9	21.0	16.0	9.9	5.8	5.7	5.0	4.7	18.0	22.8	18.5	21.9	14.4	11.3	9.0	5.5	12.6	18.5	17.0	15.5	21.0	14.9	9.3	10.1	8.2	7.5	15.9	17.9	18.6	18.4	19.7	20.3	22.5
19.6	18.2	17.3	17.7	17.0	17.0	13.4	10.9	10.8	9.5	7.4	16.1	17.1	17.6	18.1	17.4	14.0	12.7	10.0	9.3	12.4	16.7	15.4	14.6	14.4	13.1	11.5	11.4	8.7	10.5	13.4	12.8	15.2	15.9	14.7	14.4
14.0	15.8	14.5	15.0	15.0	13.1	12.6	13.5	13.1	12.9	14.9	17.6	14.6	15.2	15.5	15.6	13.3	11.5	10.9	11.7	12.0	12.3	14.4	14.7	14.6	13.8	12.7	12.1	11.9	12.3	12.6	12.5	13.1	14.1	12.9	13.7
12.4	12.0	11.6	11.7	12.2	11.4	11.2	11.9	12.2	12.3	14.3	15.7	13.6	12.5	12.5	12.1	11.1	10.6	10.4	10.3	10.3	10.4	10.2	11.5	11.6	12.4	12.4	11.8	11.5	11.8	13.1	12.7	11.7	12.4	11.4	11.6
9.7	9.6	8.8	8.7	8.8	8.9	9.0	9.0	9.3	9.7	10.4	11.8	11.4	10.7	9.4	9.6	9.7	8.8	8.8	8.7	8.3	9.0	9.8	10.8	10.7	9.5	10.2	10.0	10.4	9.8	10.8	11.1	10.6	9.5	8.6	8.7
7.6	7.7	8.1	8.5	9.2	9.6	8.9	7.8	8.3	8.7	9.4	9.3	8.1	8.3	8.7	10.4	10.3	7.9	6.4	5.9	6.8	5.6	3.6	3.3	4.9	4.7	3.3	3.4	3.5	3.9	3.5	2.8	3.1	4.1	10.1	8.5
7.8	7.3	7.2	6.5	4.9	4.3	4.4	5.1	5.8	4.7	6.0	6.8	7.5	7.3	7.2	6.1	5.7	4.6	3.7	3.6	3.5	2.8	2.5	2.6	2.5	2.7	2.9	2.7	2.4	2.6	2.9	3.0	2.9	4.8	8.9	7.8

Figure 58. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



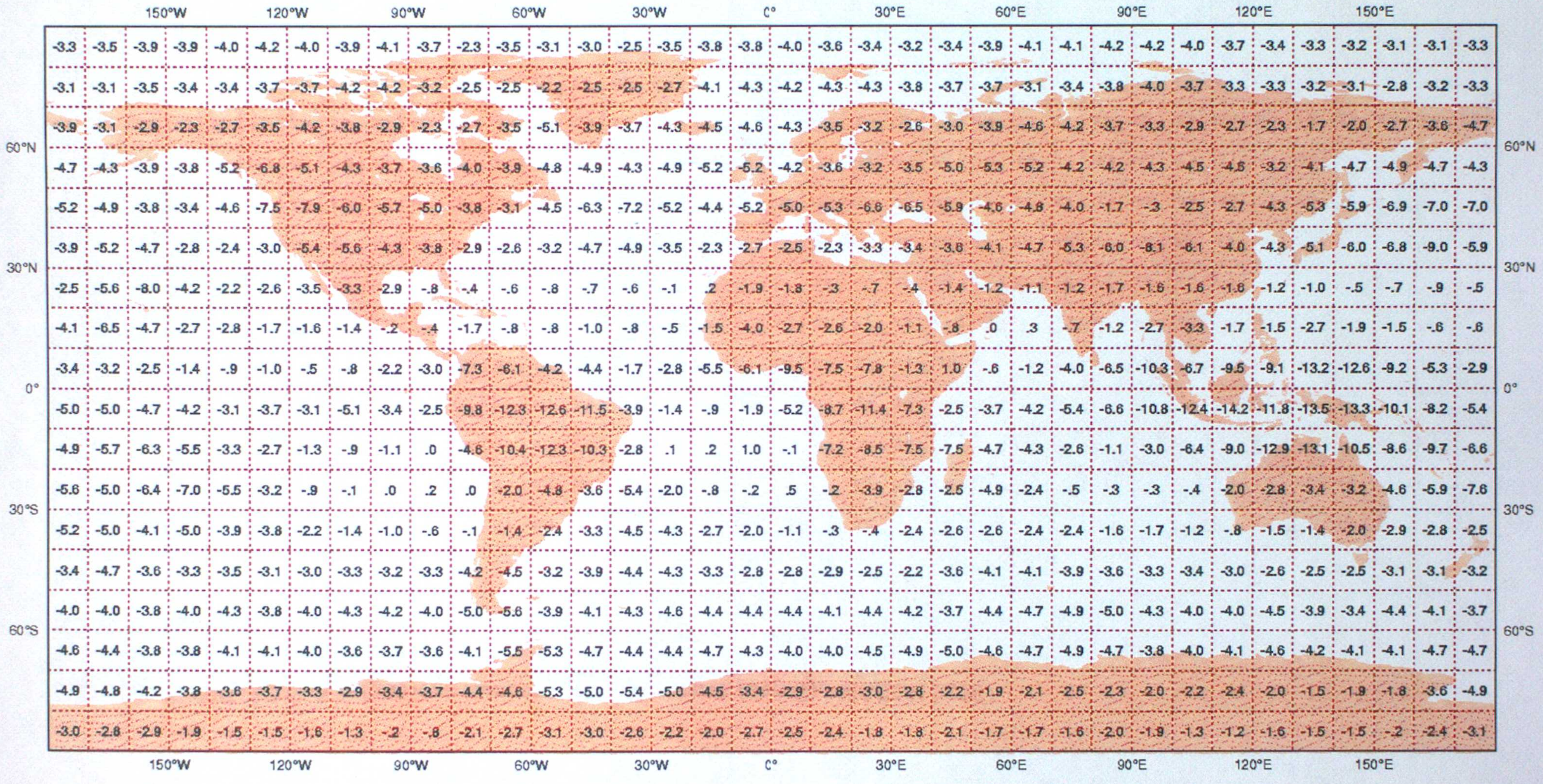
.6	.6	.5	.6	.6	.5	.6	.7	.7	.8	1.2	.9	.9	.9	1.0	.8	.7	.8	.6	.7	.8	.8	.8	.6	.5	.5	.5	.5	.6	.7	.8	.8	.8	.8	.7	.6
.7	.8	.7	.7	.7	.6	.6	.5	.6	.8	1.0	1.0	1.0	1.0	1.0	.6	.0	-.2	-.4	-.4	-.2	.0	.1	.1	.5	.5	.3	.3	.3	.5	.5	.6	.7	.7	.4	.5
-.4	.1	.3	.6	.5	.2	-.2	.1	.8	1.0	.8	.3	-1.0	-.3	-.3	-.9	-1.0	-1.1	-.6	.1	.3	.4	.1	-.4	-.8	-.4	-.2	.0	.3	.5	.8	1.0	.9	.6	-.1	-.7
-1.9	-1.7	-1.2	-1.1	-1.3	-1.9	-1.2	-.7	-.1	-.2	-.5	-.7	-1.5	-1.8	-1.4	-2.0	-2.1	-1.7	-.9	-.7	-.5	-.8	-1.5	-1.6	-1.9	-1.2	-.9	-.7	-.4	-.1	.5	.1	-.6	-.7	-1.2	-1.3
-3.0	-3.1	-2.2	-1.5	-1.9	-3.4	-3.5	-2.5	-2.5	-2.2	-1.5	-1.0	-1.8	-3.3	-4.1	-2.9	-2.5	-2.7	-2.3	-2.3	-3.2	-3.0	-2.8	-2.2	-2.1	-1.6	.3	1.6	.5	.3	-.5	-1.2	-1.9	-2.9	-3.5	-4.0
-2.7	-4.3	-3.3	-1.5	-1.1	-1.6	-2.8	-2.8	-2.2	-2.5	-1.8	-1.8	-2.2	-2.7	-2.6	-2.0	-1.1	-.8	-.1	-.1	-1.3	-1.2	-1.4	-1.1	-2.1	-2.8	-2.6	-4.3	-3.0	-1.3	-1.5	-2.3	-3.9	-4.8	-5.8	-3.7
-1.9	-4.8	-7.0	-3.2	-1.2	-1.8	-2.3	-1.3	-1.4	-.1	.1	-.2	-.6	-.1	.1	.2	1.1	.8	1.0	1.5	1.1	1.2	.0	-.1	.0	-.3	-.8	-1.4	-1.5	-1.4	-1.3	-1.0	-.7	-.7	-.2	.0
-3.6	-6.5	-4.9	-2.2	-1.7	-1.0	-.6	-.1	.3	.0	-.7	-.6	-.2	.0	.1	.4	.1	-2.5	-.9	.1	.5	.7	.2	.8	.7	.0	-.4	-1.8	-2.3	-.6	-1.3	-1.3	-1.5	-.6	.1	-.3
-2.8	-2.5	-1.6	-.9	-.6	-.4	.1	.2	-.8	-1.6	-6.7	-5.0	-3.3	-3.1	-1.1	-1.7	-3.5	-4.7	-6.1	-5.9	-6.2	-2.5	.6	.3	-.1	-2.5	-4.8	-7.8	-4.9	-7.5	-7.4	-10.6	-10.3	-7.7	-3.8	-2.3
-3.8	-3.4	-3.0	-3.1	-2.4	-2.6	-2.2	-3.2	-2.5	-2.5	-9.7	-10.4	-10.5	-8.9	-2.6	-.6	-.1	-.9	-3.4	-7.5	-9.7	-6.8	-2.2	-2.9	-3.3	-4.0	-4.7	-8.6	-10.4	-11.9	-9.3	-12.0	-12.0	-8.7	-6.5	-4.5
-3.2	-3.8	-4.0	-3.5	-2.1	-1.5	-.5	-.1	-.5	-.1	-4.0	-7.8	-9.3	-8.4	-2.0	.4	.6	.8	.0	-6.0	-6.6	-6.0	-5.1	-3.6	-3.4	-1.5	-.6	-2.0	-4.7	-7.1	-9.7	-10.6	-8.6	-7.3	-8.1	-4.6
-4.4	-3.9	-4.8	-5.0	-3.7	-1.8	-.1	.4	.3	.3	.4	-1.1	-4.1	-3.0	-5.0	-1.8	-.7	.0	.4	-.3	-3.3	-2.3	-1.3	-3.7	-1.8	-.3	-.5	-.4	.0	-1.2	-2.0	-2.2	-2.0	-3.5	-4.6	-6.0
-4.0	-4.0	-3.2	-4.1	-3.2	-3.2	-1.6	-.6	-.6	-.2	.6	-.4	-1.9	-2.4	-3.2	-3.2	-1.6	-1.1	-.6	.2	-.1	-2.1	-2.0	-1.8	-1.5	-1.6	-1.0	-1.1	-.4	-.2	-.6	-.4	-.4	-1.6	-1.8	-1.7
-2.1	-3.1	-2.5	-2.5	-2.6	-2.1	-2.0	-2.2	-2.1	-2.1	-2.3	-1.9	-1.5	-2.1	-2.7	-3.0	-2.1	-1.6	-1.7	-1.8	-1.7	-1.6	-2.5	-2.7	-2.9	-2.5	-2.0	-1.7	-1.7	-1.7	-1.7	-1.7	-1.4	-1.8	-1.6	-1.8
-1.6	-1.9	-1.8	-2.0	-2.3	-1.9	-1.9	-2.2	-2.1	-2.1	-2.9	-3.1	-1.8	-1.8	-2.2	-2.4	-2.1	-2.1	-1.9	-1.5	-1.5	-1.4	-1.3	-1.8	-2.0	-2.2	-2.3	-2.0	-1.9	-2.0	-2.5	-2.0	-1.5	-2.1	-1.9	-1.5
-1.4	-1.4	-1.1	-1.1	-1.3	-1.1	-.9	-.9	-1.0	-1.0	-1.3	-1.8	-1.9	-1.7	-1.6	-1.5	-1.6	-1.1	-.8	-.7	-1.0	-1.2	-1.2	-.9	-.8	-.9	-.9	-.6	-.8	-.9	-1.3	-1.1	-1.1	-1.1	-1.4	-1.6
-.5	-.5	-.2	-.3	-.2	-.2	.0	.2	.0	-.1	-.5	-.6	-1.2	-1.3	-1.5	-1.3	-.8	-.1	.2	.3	.4	.4	.5	.6	.6	.4	.5	.6	.5	.4	.6	.8	.7	.8	.1	-.5
.7	.8	.7	.9	1.0	1.0	1.0	1.1	1.3	1.2	.7	.5	.3	.3	.5	.8	.8	.7	.7	.8	1.0	1.1	1.1	1.0	1.0	1.0	.9	.9	.9	1.1	1.1	1.1	1.1	1.3	.8	.7

Figure 59. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



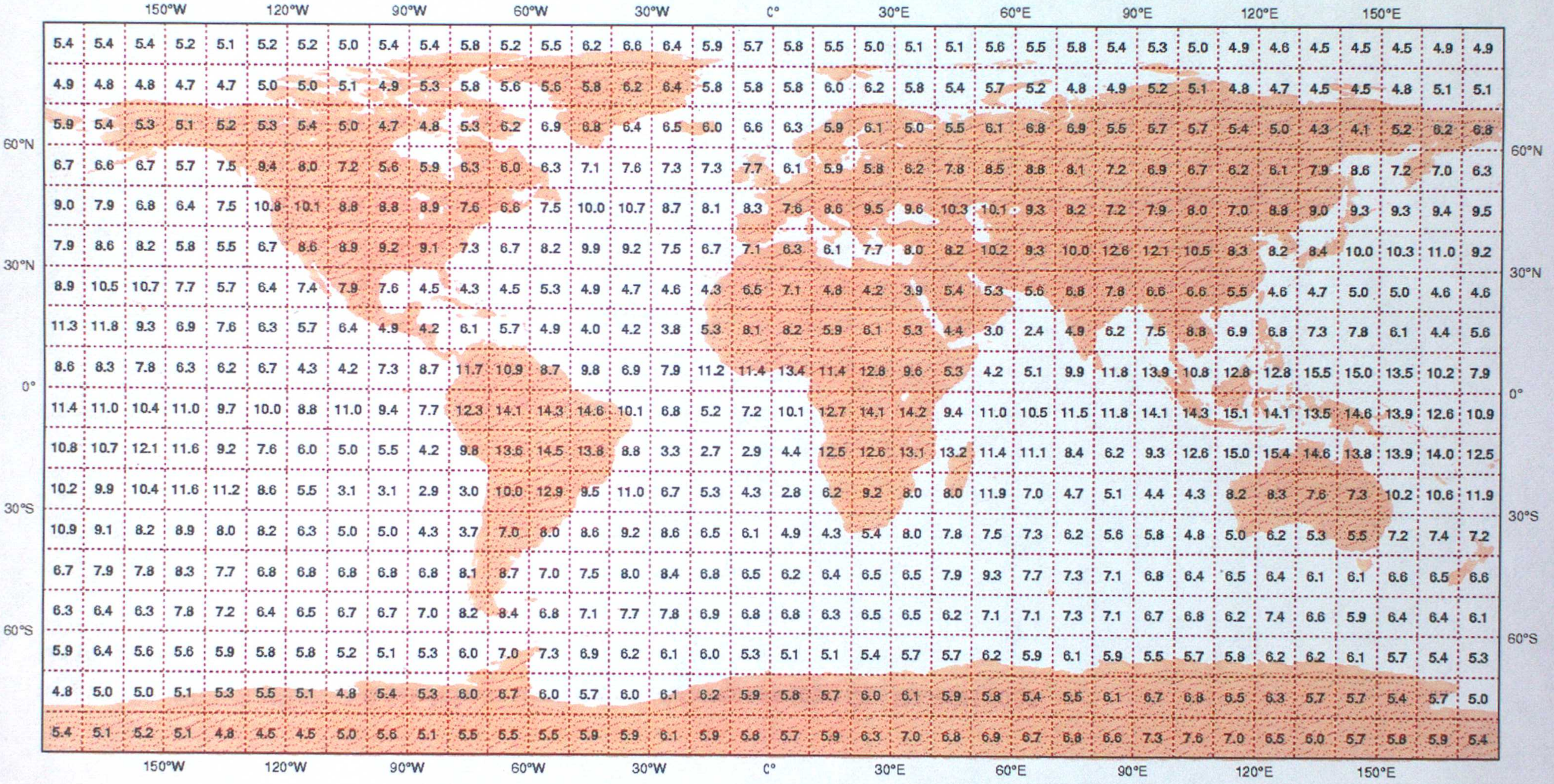
.9	1.2	1.1	1.0	.9	1.0	.9	.7	.9	.8	.9	1.0	1.1	1.3	1.5	1.5	1.5	1.4	1.9	1.8	1.5	1.2	1.2	1.4	1.4	1.4	1.4	1.4	1.1	.9	.7	.7	.7	.8	.9	.9
1.2	1.1	1.0	1.0	1.1	1.3	1.2	1.4	1.5	1.6	1.7	1.7	1.9	1.6	1.5	2.3	2.3	2.5	2.8	2.7	2.6	2.3	2.1	2.2	1.8	1.6	1.6	1.7	1.6	1.4	1.2	1.1	1.1	1.4	1.9	1.7
2.6	2.2	1.9	1.9	2.0	2.1	2.2	2.1	1.5	1.6	2.2	2.8	3.4	3.2	3.1	3.5	3.2	3.2	3.0	2.7	2.7	2.1	2.2	2.7	3.3	3.3	2.7	2.5	2.4	1.8	1.2	.9	1.2	1.9	2.7	3.2
4.0	4.1	3.6	3.2	3.5	4.0	3.5	3.4	2.7	2.8	3.0	3.1	3.4	4.0	4.5	4.4	4.1	4.1	3.3	3.3	2.9	3.1	3.7	4.2	4.7	4.0	3.2	2.8	2.5	2.3	1.7	2.2	2.8	3.0	3.6	3.6
5.6	5.3	4.5	3.7	3.8	5.0	5.3	5.2	5.3	5.6	4.7	3.7	4.5	5.9	6.4	5.5	5.1	5.1	4.9	4.6	5.4	5.3	5.8	5.7	5.5	4.8	3.9	4.0	3.9	3.1	3.3	3.3	4.1	5.7	6.2	6.1
5.2	6.4	5.5	3.7	3.1	3.9	5.5	5.9	5.7	6.1	5.1	4.3	5.1	5.9	5.9	5.4	4.2	4.5	3.9	3.3	4.7	4.8	5.4	6.0	5.8	6.1	7.0	7.5	6.2	4.6	5.1	5.2	6.5	6.6	7.4	6.6
6.4	7.8	8.1	5.9	3.8	4.3	5.4	5.6	4.9	2.9	2.6	2.9	3.6	2.8	2.5	2.4	2.0	4.3	4.9	2.3	1.7	1.9	4.3	4.1	3.9	5.0	4.8	4.2	4.1	3.1	3.4	3.5	3.8	3.2	2.4	2.5
8.8	9.3	7.7	5.1	4.8	3.7	3.3	3.4	2.5	2.6	4.2	3.3	2.7	2.0	2.2	1.5	3.6	6.8	5.8	3.2	3.0	3.2	3.3	1.2	.6	3.3	3.7	5.7	6.0	4.1	4.8	4.5	4.6	3.6	2.0	3.8
6.3	6.4	5.8	4.5	4.4	4.4	2.6	2.2	5.1	5.8	8.7	8.0	6.5	6.9	4.7	5.9	7.8	8.5	9.0	8.3	9.1	6.5	2.7	1.8	3.0	6.9	8.7	10.5	7.9	9.6	9.8	11.5	11.1	9.8	6.9	5.4
8.5	8.1	7.7	7.9	6.9	7.2	6.3	7.5	7.0	5.8	9.4	9.9	10.1	10.3	6.9	4.6	3.3	5.1	7.1	9.6	9.9	9.7	6.3	7.5	8.0	8.4	9.1	11.0	10.6	10.9	10.3	10.5	11.1	10.6	9.5	8.8
7.7	8.1	8.6	7.8	6.1	5.2	3.3	2.4	3.0	1.7	7.3	9.6	10.4	10.3	6.1	1.5	1.1	.8	2.4	9.2	9.0	9.4	9.5	8.3	8.1	5.8	3.9	6.5	9.2	10.5	10.9	11.6	10.6	10.5	10.9	9.1
7.7	7.6	8.1	8.7	8.0	6.1	3.3	1.5	1.3	.9	.9	7.6	9.2	7.2	8.6	5.2	4.0	2.8	1.4	4.4	7.1	6.5	5.7	8.8	5.2	2.9	3.3	2.5	2.6	6.0	6.1	6.4	6.0	7.3	7.9	9.4
7.4	6.8	6.5	6.6	6.3	6.4	4.5	3.3	3.3	3.0	1.9	5.6	6.0	6.5	6.7	6.3	4.6	4.3	3.2	2.6	4.1	6.3	5.6	5.4	5.1	4.7	3.9	3.8	2.7	3.3	4.3	3.8	4.7	5.1	5.1	5.1
4.4	5.6	5.0	5.4	5.5	4.7	4.5	4.9	4.6	4.4	4.8	5.5	4.6	5.0	5.7	5.9	4.8	4.5	4.1	4.1	4.1	4.4	5.4	5.6	5.5	5.2	4.6	4.0	4.0	4.1	4.3	4.2	4.2	4.8	4.5	4.4
3.5	3.6	3.7	4.1	4.2	3.6	3.8	3.8	3.9	3.9	4.6	5.1	4.3	4.1	4.5	4.5	4.0	4.0	3.9	3.3	3.2	3.1	3.0	3.9	3.9	4.3	4.4	4.0	3.9	3.9	4.5	4.2	3.6	4.2	3.7	3.4
2.9	2.9	2.6	2.4	2.6	2.4	2.3	2.4	2.4	2.6	2.8	3.3	3.6	3.5	3.1	3.3	3.4	2.7	2.2	1.9	1.9	2.1	2.2	2.3	2.2	2.3	2.3	2.1	2.5	2.4	2.9	3.2	3.0	2.8	2.6	2.5
1.5	1.7	1.7	1.6	1.8	1.9	1.6	1.6	1.8	1.8	2.2	2.5	2.5	2.3	2.6	2.9	2.8	2.1	1.6	1.4	1.3	1.2	.9	.7	1.0	1.1	.8	.7	.9	1.0	.9	.8	1.0	1.2	1.6	1.6
1.2	1.2	1.2	1.2	1.1	1.0	.9	1.0	1.1	.9	1.4	1.5	1.6	1.7	1.7	1.4	1.3	1.2	1.0	1.0	.8	.6	.6	.7	.7	.7	.7	.8	.7	.7	.7	.7	.7	.9	1.2	1.1

Figure 60. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations



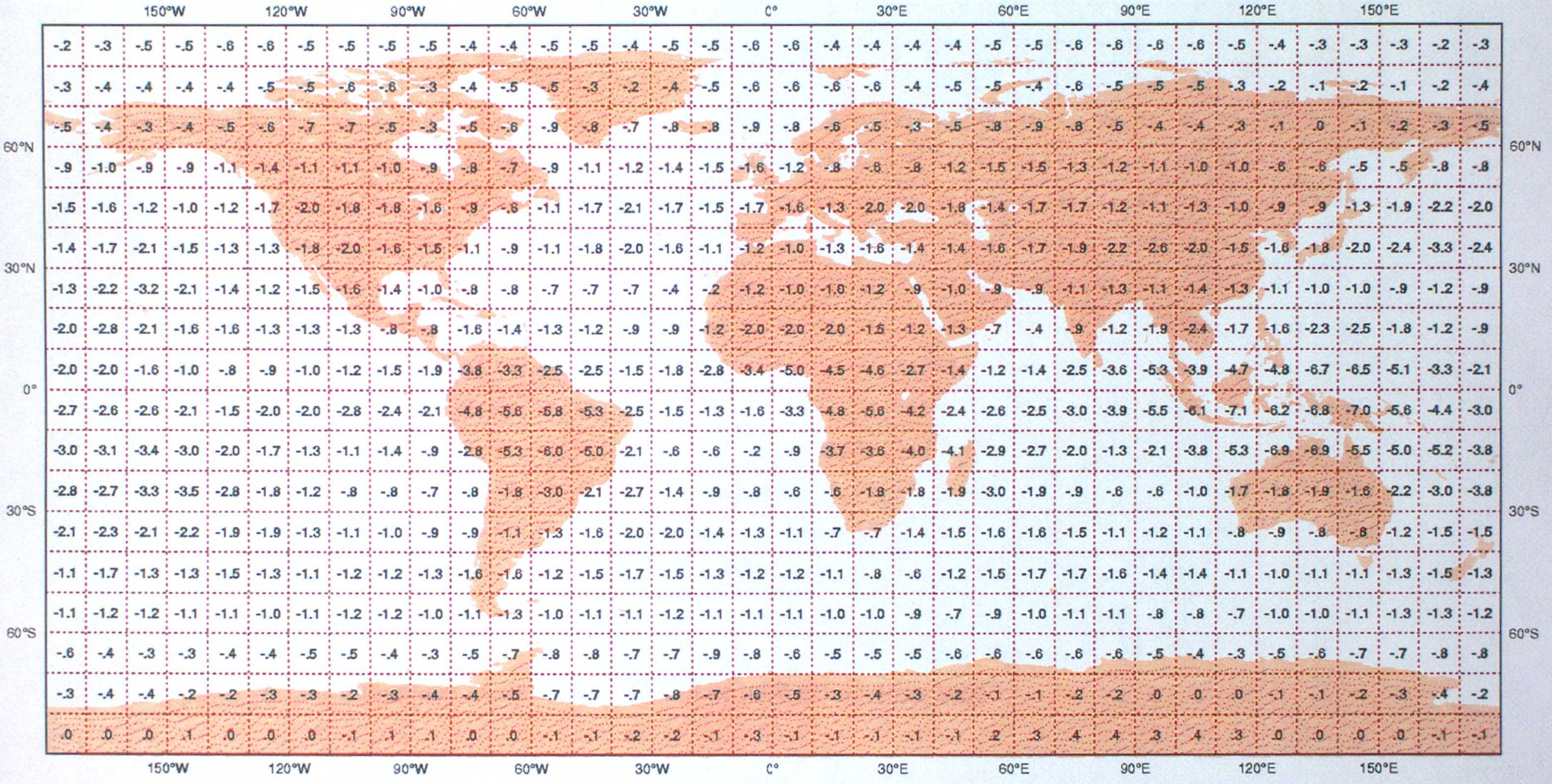
-3.3	-3.5	-3.9	-3.9	-4.0	-4.2	-4.0	-3.9	-4.1	-3.7	-2.3	-3.5	-3.1	-3.0	-2.5	-3.5	-3.8	-3.8	-4.0	-3.6	-3.4	-3.2	-3.4	-3.9	-4.1	-4.1	-4.2	-4.2	-4.0	-3.7	-3.4	-3.3	-3.2	-3.1	-3.1	-3.3
-3.1	-3.1	-3.5	-3.4	-3.4	-3.7	-3.7	-4.2	-4.2	-3.2	-2.5	-2.5	-2.2	-2.5	-2.5	-2.7	-4.1	-4.3	-4.2	-4.3	-4.3	-3.8	-3.7	-3.7	-3.1	-3.4	-3.8	-4.0	-3.7	-3.3	-3.3	-3.2	-3.1	-2.8	-3.2	-3.3
-3.9	-3.1	-2.9	-2.3	-2.7	-3.5	-4.2	-3.8	-2.9	-2.3	-2.7	-3.5	-5.1	-3.9	-3.7	-4.3	-4.5	-4.6	-4.3	-3.5	-3.2	-2.6	-3.0	-3.9	-4.6	-4.2	-3.7	-3.3	-2.9	-2.7	-2.3	-1.7	-2.0	-2.7	-3.6	-4.7
-4.7	-4.3	-3.9	-3.8	-5.2	-6.8	-5.1	-4.3	-3.7	-3.6	-4.0	-3.9	-4.8	-4.9	-4.3	-4.9	-5.2	-5.2	-4.2	-3.6	-3.2	-3.5	-5.0	-5.3	-5.2	-4.2	-4.2	-4.3	-4.5	-4.6	-3.2	-4.1	-4.7	-4.9	-4.7	-4.3
-5.2	-4.9	-3.8	-3.4	-4.6	-7.5	-7.9	-6.0	-5.7	-5.0	-3.8	-3.1	-4.5	-6.3	-7.2	-5.2	-4.4	-5.2	-5.0	-5.3	-6.6	-6.5	-5.9	-4.6	-4.8	-4.0	-1.7	-.3	-2.5	-2.7	-4.3	-5.3	-5.9	-6.9	-7.0	-7.0
-3.9	-5.2	-4.7	-2.8	-2.4	-3.0	-5.4	-5.6	-4.3	-3.8	-2.9	-2.6	-3.2	-4.7	-4.9	-3.5	-2.3	-2.7	-2.5	-2.3	-3.3	-3.4	-3.6	-4.1	-4.7	-5.3	-6.0	-8.1	-6.1	-4.0	-4.3	-5.1	-6.0	-6.8	-9.0	-5.9
-2.5	-5.6	-8.0	-4.2	-2.2	-2.6	-3.5	-3.3	-2.9	-.8	-.4	-.6	-.8	-.7	-.6	-.1	.2	-1.9	-1.8	-.3	-.7	-.4	-1.4	-1.2	-1.1	-1.2	-1.7	-1.6	-1.6	-1.8	-1.2	-1.0	-.5	-.7	-.9	-.5
-4.1	-6.5	-4.7	-2.7	-2.8	-1.7	-1.6	-1.4	-.2	-.4	-1.7	-.8	-.8	-1.0	-.8	-.5	-1.5	-4.0	-2.7	-2.6	-2.0	-1.1	-.8	.0	.3	-.7	-1.2	-2.7	-3.3	-1.7	-1.5	-2.7	-1.9	-1.5	-.6	-.6
-3.4	-3.2	-2.5	-1.4	-.9	-1.0	-.5	-.8	-2.2	-3.0	-7.3	-6.1	-4.2	-4.4	-1.7	-2.8	-5.5	-6.1	-9.5	-7.5	-7.8	-1.3	1.0	-.6	-1.2	-4.0	-6.5	-10.3	-6.7	-9.5	-9.1	-13.2	-12.6	-9.2	-5.3	-2.9
-5.0	-5.0	-4.7	-4.2	-3.1	-3.7	-3.1	-5.1	-3.4	-2.5	-9.8	-12.3	-12.6	-11.5	-3.9	-1.4	-.9	-1.9	-5.2	-8.7	-11.4	-7.3	-2.5	-3.7	-4.2	-5.4	-6.6	-10.8	-12.4	-14.2	-11.8	-13.5	-13.3	-10.1	-8.2	-5.4
-4.9	-5.7	-6.3	-5.5	-3.3	-2.7	-1.3	-.9	-1.1	.0	-4.6	-10.4	-12.3	-10.3	-2.8	.1	.2	1.0	-.1	-7.2	-8.5	-7.5	-7.5	-4.7	-4.3	-2.6	-1.1	-3.0	-6.4	-9.0	-12.9	-13.1	-10.5	-8.6	-9.7	-6.6
-5.6	-5.0	-6.4	-7.0	-5.5	-3.2	-.9	-.1	.0	.2	.0	-2.0	-4.8	-3.6	-5.4	-2.0	-.8	-.2	.5	-.2	-3.9	-2.8	-2.5	-4.9	-2.4	-.5	-.3	-.3	-.4	-2.0	-2.8	-3.4	-3.2	-4.6	-5.9	-7.6
-5.2	-5.0	-4.1	-5.0	-3.9	-3.8	-2.2	-1.4	-1.0	-.6	-.1	-1.4	-2.4	-3.3	-4.5	-4.3	-2.7	-2.0	-1.1	-.3	-.4	-2.4	-2.6	-2.6	-2.4	-2.4	-1.6	-1.7	-1.2	-.8	-1.5	-1.4	-2.0	-2.9	-2.8	-2.5
-3.4	-4.7	-3.6	-3.3	-3.5	-3.1	-3.0	-3.3	-3.2	-3.3	-4.2	-4.5	-3.2	-3.9	-4.4	-4.3	-3.3	-2.8	-2.8	-2.9	-2.5	-2.2	-3.6	-4.1	-4.1	-3.9	-3.6	-3.3	-3.4	-3.0	-2.6	-2.5	-2.5	-3.1	-3.1	-3.2
-4.0	-4.0	-3.8	-4.0	-4.3	-3.8	-4.0	-4.3	-4.2	-4.0	-5.0	-5.6	-3.9	-4.1	-4.3	-4.6	-4.4	-4.4	-4.4	-4.1	-4.4	-4.2	-3.7	-4.4	-4.7	-4.9	-5.0	-4.3	-4.0	-4.0	-4.5	-3.9	-3.4	-4.4	-4.1	-3.7
-4.6	-4.4	-3.8	-3.8	-4.1	-4.1	-4.0	-3.6	-3.7	-3.6	-4.1	-5.5	-5.3	-4.7	-4.4	-4.4	-4.7	-4.3	-4.0	-4.0	-4.5	-4.9	-5.0	-4.6	-4.7	-4.9	-4.7	-3.8	-4.0	-4.1	-4.6	-4.2	-4.1	-4.1	-4.7	-4.7
-4.9	-4.8	-4.2	-3.8	-3.6	-3.7	-3.3	-2.9	-3.4	-3.7	-4.4	-4.6	-5.3	-5.0	-5.4	-5.0	-4.5	-3.4	-2.9	-2.8	-3.0	-2.8	-2.2	-1.9	-2.1	-2.5	-2.3	-2.0	-2.2	-2.4	-2.0	-1.5	-1.9	-1.8	-3.6	-4.9
-3.0	-2.8	-2.9	-1.9	-1.5	-1.5	-1.6	-1.3	-.2	-.8	-2.1	-2.7	-3.1	-3.0	-2.6	-2.2	-2.0	-2.7	-2.5	-2.4	-1.8	-1.8	-2.1	-1.7	-1.7	-1.6	-2.0	-1.9	-1.3	-1.2	-1.6	-1.5	-1.5	-.2	-2.4	-3.1

Figure 61. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations



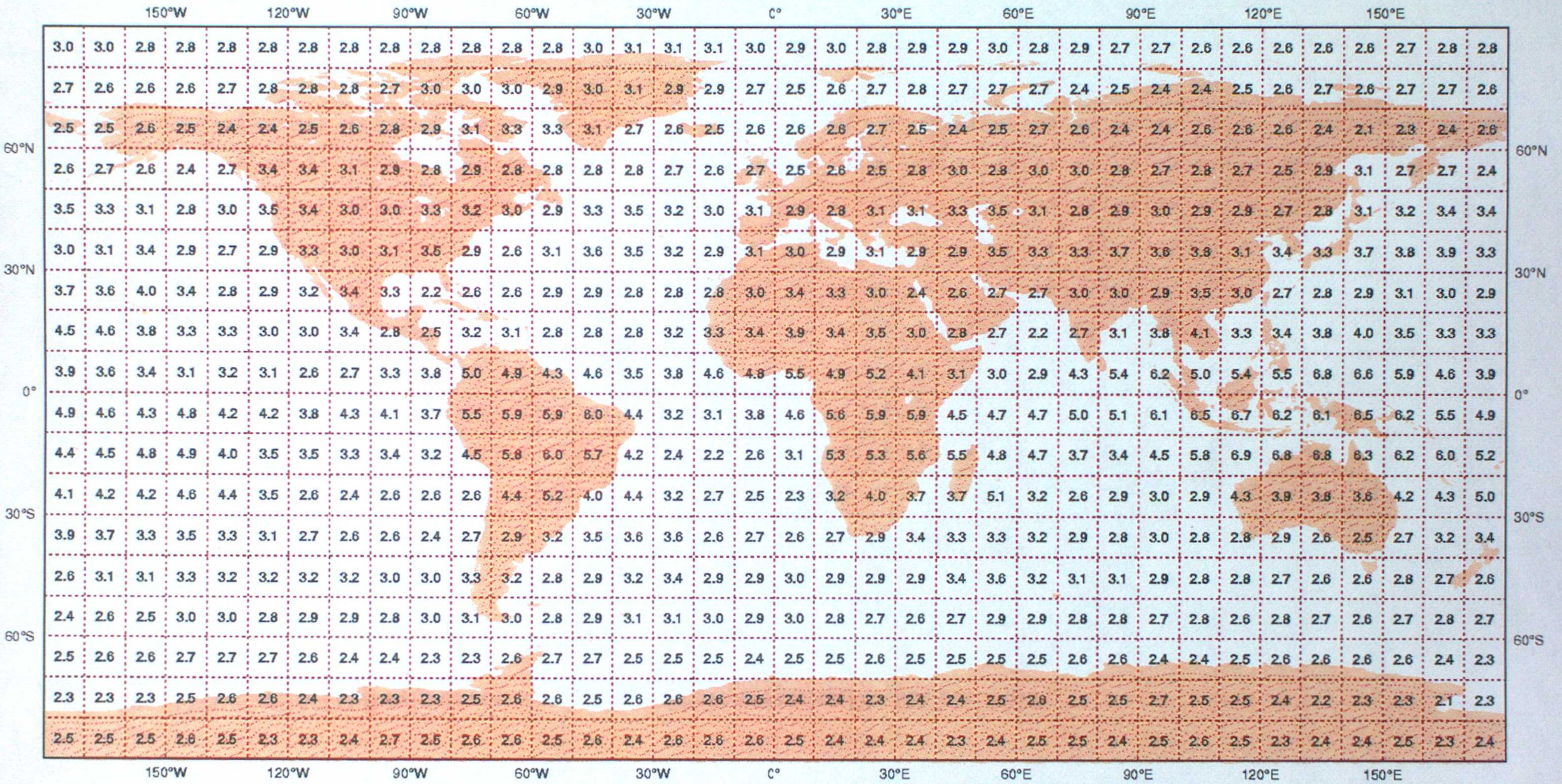
5.4	5.4	5.4	5.2	5.1	5.2	5.2	5.0	5.4	5.4	5.8	5.2	5.5	6.2	6.6	6.4	5.9	5.7	5.8	5.5	5.0	5.1	5.1	5.6	5.5	5.8	5.4	5.3	5.0	4.9	4.6	4.5	4.5	4.5	4.9	4.9
4.9	4.8	4.8	4.7	4.7	5.0	5.0	5.1	4.9	5.3	5.8	5.6	5.6	5.8	6.2	6.4	5.8	5.8	5.8	6.0	6.2	5.8	5.4	5.7	5.2	4.8	4.9	5.2	5.1	4.8	4.7	4.5	4.5	4.8	5.1	5.1
5.9	5.4	5.3	5.1	5.2	5.3	5.4	5.0	4.7	4.8	5.3	6.2	6.9	6.8	6.4	6.5	6.0	6.6	6.3	5.9	6.1	5.0	5.5	6.1	6.8	6.9	5.5	5.7	5.7	5.4	5.0	4.3	4.1	5.2	6.2	6.8
6.7	6.6	6.7	5.7	7.5	9.4	8.0	7.2	5.6	5.9	6.3	6.0	6.3	7.1	7.6	7.3	7.3	7.7	6.1	5.9	5.8	6.2	7.8	8.5	8.8	8.1	7.2	6.9	6.7	6.2	6.1	7.9	8.6	7.2	7.0	6.3
9.0	7.9	6.8	6.4	7.5	10.8	10.1	8.8	8.8	8.9	7.6	6.6	7.5	10.0	10.7	8.7	8.1	8.3	7.6	8.6	9.5	9.6	10.3	10.1	9.3	8.2	7.2	7.9	8.0	7.0	8.8	9.0	9.3	9.3	9.4	9.5
7.9	8.6	8.2	5.8	5.5	6.7	8.6	8.9	9.2	9.1	7.3	6.7	8.2	9.9	9.2	7.5	6.7	7.1	6.3	6.1	7.7	8.0	8.2	10.2	9.3	10.0	12.6	12.1	10.5	8.3	8.2	8.4	10.0	10.3	11.0	9.2
8.9	10.5	10.7	7.7	5.7	6.4	7.4	7.9	7.6	4.5	4.3	4.5	5.3	4.9	4.7	4.6	4.3	6.5	7.1	4.8	4.2	3.9	5.4	5.3	5.6	6.8	7.8	6.6	6.6	5.5	4.6	4.7	5.0	5.0	4.6	4.6
11.3	11.8	9.3	6.9	7.6	6.3	5.7	6.4	4.9	4.2	6.1	5.7	4.9	4.0	4.2	3.8	5.3	8.1	8.2	5.9	6.1	5.3	4.4	3.0	2.4	4.9	6.2	7.5	8.8	6.9	6.8	7.3	7.8	6.1	4.4	5.6
8.6	8.3	7.8	6.3	6.2	6.7	4.3	4.2	7.3	8.7	11.7	10.9	8.7	9.8	6.9	7.9	11.2	11.4	13.4	11.4	12.8	9.6	5.3	4.2	5.1	9.9	11.8	13.9	10.8	12.8	12.8	15.5	15.0	13.5	10.2	7.9
11.4	11.0	10.4	11.0	9.7	10.0	8.8	11.0	9.4	7.7	12.3	14.1	14.3	14.6	10.1	6.8	5.2	7.2	10.1	12.7	14.1	14.2	9.4	11.0	10.5	11.5	11.8	14.1	14.3	15.1	14.1	13.5	14.6	13.9	12.6	10.9
10.8	10.7	12.1	11.6	9.2	7.6	6.0	5.0	5.5	4.2	9.8	13.6	14.5	13.8	8.8	3.3	2.7	2.9	4.4	12.5	12.6	13.1	13.2	11.4	11.1	8.4	6.2	9.3	12.6	15.0	15.4	14.6	13.8	13.9	14.0	12.5
10.2	9.9	10.4	11.6	11.2	8.6	5.5	3.1	3.1	2.9	3.0	10.0	12.9	9.5	11.0	6.7	5.3	4.3	2.8	6.2	9.2	8.0	8.0	11.9	7.0	4.7	5.1	4.4	4.3	8.2	8.3	7.6	7.3	10.2	10.6	11.9
10.9	9.1	8.2	8.9	8.0	8.2	6.3	5.0	5.0	4.3	3.7	7.0	8.0	8.6	9.2	8.6	6.5	6.1	4.9	4.3	5.4	8.0	7.8	7.5	7.3	6.2	5.6	5.8	4.8	5.0	6.2	5.3	5.5	7.2	7.4	7.2
6.7	7.9	7.8	8.3	7.7	6.8	6.8	6.8	6.8	6.8	8.1	8.7	7.0	7.5	8.0	8.4	6.8	6.5	6.2	6.4	6.5	6.5	7.9	9.3	7.7	7.3	7.1	6.8	6.4	6.5	6.4	6.1	6.1	6.6	6.5	6.6
6.3	6.4	6.3	7.8	7.2	6.4	6.5	6.7	6.7	7.0	8.2	8.4	6.8	7.1	7.7	7.8	6.9	6.8	6.8	6.3	6.5	6.5	6.2	7.1	7.1	7.3	7.1	6.7	6.8	6.2	7.4	6.6	5.9	6.4	6.4	6.1
5.9	6.4	5.6	5.6	5.9	5.8	5.8	5.2	5.1	5.3	6.0	7.0	7.3	6.9	6.2	6.1	6.0	5.3	5.1	5.1	5.4	5.7	5.7	6.2	5.9	6.1	5.9	5.5	5.7	5.8	6.2	6.2	6.1	5.7	5.4	5.3
4.8	5.0	5.0	5.1	5.3	5.5	5.1	4.8	5.4	5.3	6.0	6.7	6.0	5.7	6.0	6.1	6.2	5.9	5.8	5.7	6.0	6.1	5.9	5.8	5.4	5.5	6.1	6.7	6.8	6.5	6.3	5.7	5.7	5.4	5.7	5.0
5.4	5.1	5.2	5.1	4.8	4.5	4.5	5.0	5.6	5.1	5.5	5.5	5.5	5.9	5.9	6.1	5.9	5.8	5.7	5.9	6.3	7.0	6.8	6.9	6.7	6.8	6.6	7.3	7.6	7.0	6.5	6.0	5.7	5.8	5.9	5.4

Figure 62. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



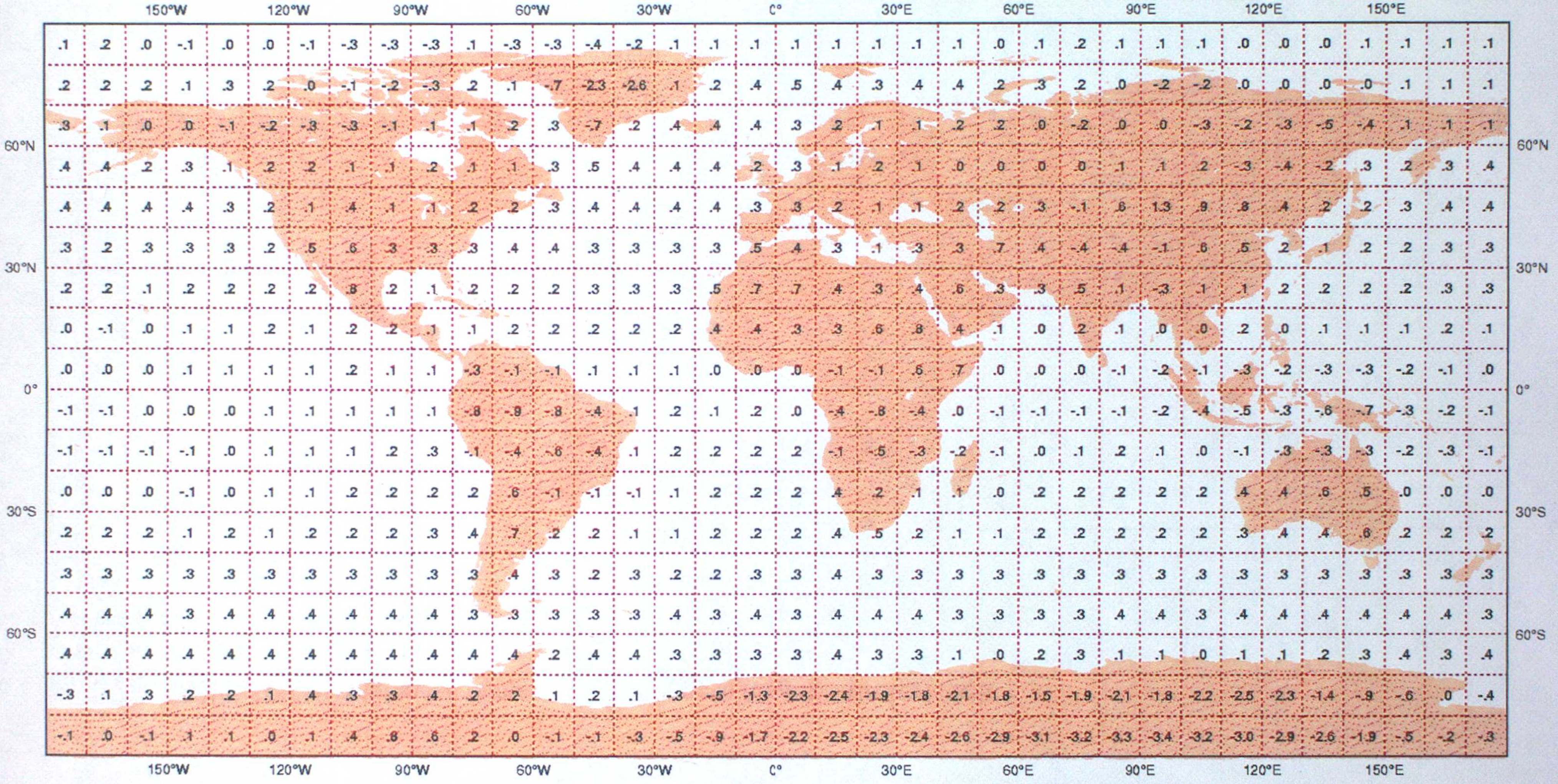
-.2	-.3	-.5	-.5	-.6	-.6	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.4	-.5	-.5	-.6	-.6	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.6	-.6	-.6	-.5	-.4	-.3	-.3	-.3	-.2	-.3
-.3	-.4	-.4	-.4	-.4	-.5	-.5	-.6	-.6	-.3	-.4	-.5	-.5	-.3	-.2	-.4	-.5	-.6	-.6	-.6	-.6	-.4	-.5	-.5	-.4	-.6	-.5	-.5	-.5	-.3	-.2	-.1	-.2	-.1	-.2	-.4
-.5	-.4	-.3	-.4	-.5	-.6	-.7	-.7	-.5	-.3	-.5	-.6	-.9	-.8	-.7	-.8	-.8	-.9	-.8	-.6	-.5	-.3	-.5	-.8	-.9	-.8	-.5	-.4	-.4	-.3	-.1	.0	-.1	-.2	-.3	-.5
-.9	-1.0	-.9	-.9	-1.1	-1.4	-1.1	-1.1	-1.0	-.9	-.8	-.7	-.9	-1.1	-1.2	-1.4	-1.5	-1.6	-1.2	-.8	-.8	-.8	-1.2	-1.5	-1.5	-1.3	-1.2	-1.1	-1.0	-1.0	-.6	-.6	-.5	-.5	-.8	-.8
-1.5	-1.6	-1.2	-1.0	-1.2	-1.7	-2.0	-1.8	-1.8	-1.6	-.9	-.6	-1.1	-1.7	-2.1	-1.7	-1.5	-1.7	-1.6	-1.3	-2.0	-2.0	-1.8	-1.4	-1.7	-1.7	-1.2	-1.1	-1.3	-1.0	-.9	-.9	-1.3	-1.9	-2.2	-2.0
-1.4	-1.7	-2.1	-1.5	-1.3	-1.3	-1.8	-2.0	-1.6	-1.5	-1.1	-.9	-1.1	-1.8	-2.0	-1.6	-1.1	-1.2	-1.0	-1.3	-1.6	-1.4	-1.4	-1.6	-1.7	-1.9	-2.2	-2.6	-2.0	-1.5	-1.6	-1.8	-2.0	-2.4	-3.3	-2.4
-1.3	-2.2	-3.2	-2.1	-1.4	-1.2	-1.5	-1.6	-1.4	-1.0	-.8	-.8	-.7	-.7	-.7	-.4	-.2	-1.2	-1.0	-1.0	-1.2	-.9	-1.0	-.9	-.9	-1.1	-1.3	-1.1	-1.4	-1.3	-1.1	-1.0	-1.0	-.9	-1.2	-.9
-2.0	-2.8	-2.1	-1.6	-1.6	-1.3	-1.3	-1.3	-.8	-.8	-1.6	-1.4	-1.3	-1.2	-.9	-.9	-1.2	-2.0	-2.0	-2.0	-1.5	-1.2	-1.3	-.7	-.4	-.9	-1.2	-1.9	-2.4	-1.7	-1.6	-2.3	-2.5	-1.8	-1.2	-.9
-2.0	-2.0	-1.6	-1.0	-.8	-.9	-1.0	-1.2	-1.5	-1.9	-3.8	-3.3	-2.5	-2.5	-1.5	-1.8	-2.8	-3.4	-5.0	-4.5	-4.6	-2.7	-1.4	-1.2	-1.4	-2.5	-3.6	-5.3	-3.9	-4.7	-4.8	-6.7	-6.5	-5.1	-3.3	-2.1
-2.7	-2.6	-2.6	-2.1	-1.5	-2.0	-2.0	-2.8	-2.4	-2.1	-4.8	-5.6	-5.8	-5.3	-2.5	-1.5	-1.3	-1.6	-3.3	-4.8	-5.6	-4.2	-2.4	-2.6	-2.5	-3.0	-3.9	-5.5	-6.1	-7.1	-6.2	-6.8	-7.0	-5.6	-4.4	-3.0
-3.0	-3.1	-3.4	-3.0	-2.0	-1.7	-1.3	-1.1	-1.4	-.9	-2.8	-5.3	-6.0	-5.0	-2.1	-.6	-.6	-.2	-.9	-3.7	-3.6	-4.0	-4.1	-2.9	-2.7	-2.0	-1.3	-2.1	-3.8	-5.3	-6.9	-6.9	-5.5	-5.0	-5.2	-3.8
-2.8	-2.7	-3.3	-3.5	-2.8	-1.8	-1.2	-.8	-.8	-.7	-.8	-1.8	-3.0	-2.1	-2.7	-1.4	-.9	-.8	-.6	-.6	-1.8	-1.8	-1.9	-3.0	-1.9	-.9	-.6	-.6	-1.0	-1.7	-1.8	-1.9	-1.6	-2.2	-3.0	-3.8
-2.1	-2.3	-2.1	-2.2	-1.9	-1.9	-1.3	-1.1	-1.0	-.9	-.9	-1.1	-1.3	-1.6	-2.0	-2.0	-1.4	-1.3	-1.1	-.7	-.7	-1.4	-1.5	-1.6	-1.6	-1.5	-1.1	-1.2	-1.1	-.8	-.9	-.8	-.8	-1.2	-1.5	-1.5
-1.1	-1.7	-1.3	-1.3	-1.5	-1.3	-1.1	-1.2	-1.2	-1.3	-1.6	-1.6	-1.2	-1.5	-1.7	-1.5	-1.3	-1.2	-1.2	-1.1	-.8	-.6	-1.2	-1.5	-1.7	-1.7	-1.6	-1.4	-1.4	-1.1	-1.0	-1.1	-1.1	-1.3	-1.5	-1.3
-1.1	-1.2	-1.2	-1.1	-1.1	-1.0	-1.1	-1.2	-1.2	-1.0	-1.1	-1.3	-1.0	-1.1	-1.1	-1.2	-1.1	-1.1	-1.1	-1.0	-1.0	-.9	-.7	-.9	-1.0	-1.1	-1.1	-.8	-.8	-.7	-1.0	-1.0	-1.1	-1.3	-1.3	-1.2
-.6	-.4	-.3	-.3	-.4	-.4	-.5	-.5	-.4	-.3	-.5	-.7	-.8	-.8	-.7	-.7	-.9	-.8	-.6	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.4	-.3	-.5	-.6	-.7	-.7	-.8	-.8
-.3	-.4	-.4	-.2	-.2	-.3	-.3	-.2	-.3	-.4	-.4	-.5	-.7	-.7	-.7	-.8	-.7	-.6	-.5	-.3	-.4	-.3	-.2	-.1	-.1	-.2	-.2	.0	.0	.0	-.1	-.1	-.2	-.3	-.4	-.2
.0	.0	.0	.1	.0	.0	.0	-.1	.1	.1	.0	.0	-.1	-.1	-.2	-.2	-.1	-.3	-.1	-.1	-.1	-.1	-.1	.2	.3	.4	.4	.3	.4	.3	.0	.0	.0	.0	-.1	-.1

Figure 63. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



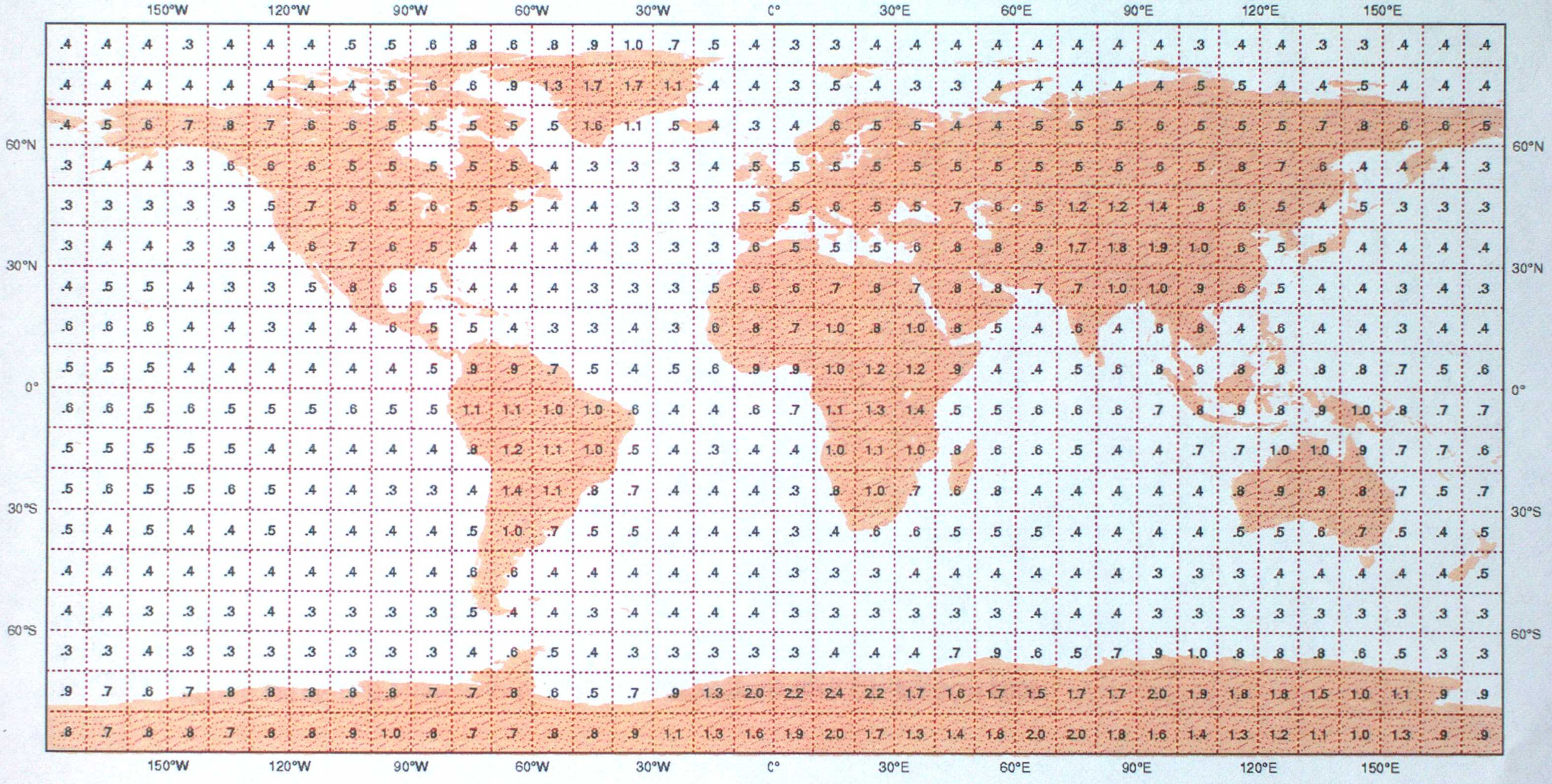
3.0	3.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.0	3.1	3.1	3.1	3.0	2.9	3.0	2.8	2.9	2.9	3.0	2.8	2.9	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.7	2.8	2.8
2.7	2.6	2.6	2.6	2.7	2.8	2.8	2.8	2.7	3.0	3.0	3.0	2.9	3.0	3.1	2.9	2.9	2.7	2.5	2.6	2.7	2.8	2.7	2.7	2.7	2.4	2.5	2.4	2.4	2.5	2.6	2.7	2.6	2.7	2.7	2.6
2.5	2.5	2.6	2.5	2.4	2.4	2.5	2.6	2.8	2.9	3.1	3.3	3.3	3.1	2.7	2.6	2.5	2.6	2.6	2.6	2.7	2.5	2.4	2.5	2.7	2.6	2.4	2.4	2.6	2.6	2.6	2.4	2.1	2.3	2.4	2.6
2.6	2.7	2.6	2.4	2.7	3.4	3.4	3.1	2.9	2.8	2.9	2.8	2.8	2.8	2.8	2.7	2.6	2.7	2.5	2.6	2.5	2.8	3.0	2.8	3.0	3.0	2.8	2.7	2.8	2.7	2.5	2.9	3.1	2.7	2.7	2.4
3.5	3.3	3.1	2.8	3.0	3.5	3.4	3.0	3.0	3.3	3.2	3.0	2.9	3.3	3.5	3.2	3.0	3.1	2.9	2.8	3.1	3.1	3.3	3.5	3.1	2.8	2.9	3.0	2.9	2.9	2.7	2.8	3.1	3.2	3.4	3.4
3.0	3.1	3.4	2.9	2.7	2.9	3.3	3.0	3.1	3.5	2.9	2.6	3.1	3.6	3.5	3.2	2.9	3.1	3.0	2.9	3.1	2.9	2.9	3.5	3.3	3.3	3.7	3.6	3.8	3.1	3.4	3.3	3.7	3.8	3.9	3.3
3.7	3.6	4.0	3.4	2.8	2.9	3.2	3.4	3.3	2.2	2.6	2.6	2.9	2.9	2.8	2.8	2.8	3.0	3.4	3.3	3.0	2.4	2.6	2.7	2.7	3.0	3.0	2.9	3.5	3.0	2.7	2.8	2.9	3.1	3.0	2.9
4.5	4.6	3.8	3.3	3.3	3.0	3.0	3.4	2.8	2.5	3.2	3.1	2.8	2.8	2.8	3.2	3.3	3.4	3.9	3.4	3.5	3.0	2.8	2.7	2.2	2.7	3.1	3.8	4.1	3.3	3.4	3.8	4.0	3.5	3.3	3.3
3.9	3.6	3.4	3.1	3.2	3.1	2.6	2.7	3.3	3.8	5.0	4.9	4.3	4.6	3.5	3.8	4.6	4.8	5.5	4.9	5.2	4.1	3.1	3.0	2.9	4.3	5.4	6.2	5.0	5.4	5.5	6.8	6.6	5.9	4.6	3.9
4.9	4.6	4.3	4.8	4.2	4.2	3.8	4.3	4.1	3.7	5.5	5.9	5.9	6.0	4.4	3.2	3.1	3.8	4.6	5.6	5.9	5.9	4.5	4.7	4.7	5.0	5.1	6.1	6.5	6.7	6.2	6.1	6.5	6.2	5.5	4.9
4.4	4.5	4.8	4.9	4.0	3.5	3.5	3.3	3.4	3.2	4.5	5.8	6.0	5.7	4.2	2.4	2.2	2.6	3.1	5.3	5.3	5.6	5.5	4.8	4.7	3.7	3.4	4.5	5.8	6.9	6.8	6.8	6.3	6.2	6.0	5.2
4.1	4.2	4.2	4.6	4.4	3.5	2.6	2.4	2.6	2.6	2.6	4.4	5.2	4.0	4.4	3.2	2.7	2.5	2.3	3.2	4.0	3.7	3.7	5.1	3.2	2.6	2.9	3.0	2.9	4.3	3.9	3.8	3.6	4.2	4.3	5.0
3.9	3.7	3.3	3.5	3.3	3.1	2.7	2.6	2.6	2.4	2.7	2.9	3.2	3.5	3.6	3.6	2.6	2.7	2.6	2.7	2.9	3.4	3.3	3.3	3.2	2.9	2.8	3.0	2.8	2.8	2.9	2.6	2.5	2.7	3.2	3.4
2.6	3.1	3.1	3.3	3.2	3.2	3.2	3.2	3.0	3.0	3.3	3.2	2.8	2.9	3.2	3.4	2.9	2.9	3.0	2.9	2.9	2.9	3.4	3.6	3.2	3.1	3.1	2.9	2.8	2.8	2.7	2.6	2.6	2.8	2.7	2.6
2.4	2.6	2.5	3.0	3.0	2.8	2.9	2.9	2.8	3.0	3.1	3.0	2.8	2.9	3.1	3.1	3.0	2.9	3.0	2.8	2.7	2.6	2.7	2.9	2.9	2.8	2.8	2.7	2.8	2.6	2.8	2.7	2.6	2.7	2.8	2.7
2.5	2.6	2.6	2.7	2.7	2.7	2.6	2.4	2.4	2.3	2.3	2.6	2.7	2.7	2.5	2.5	2.5	2.4	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.6	2.6	2.4	2.4	2.5	2.6	2.6	2.6	2.6	2.4	2.3
2.3	2.3	2.3	2.5	2.6	2.6	2.4	2.3	2.3	2.3	2.5	2.6	2.6	2.5	2.6	2.6	2.6	2.5	2.4	2.4	2.3	2.4	2.4	2.5	2.6	2.5	2.5	2.7	2.5	2.5	2.4	2.2	2.3	2.3	2.1	2.3
2.5	2.5	2.5	2.6	2.5	2.3	2.3	2.4	2.7	2.5	2.6	2.6	2.5	2.6	2.4	2.6	2.6	2.6	2.5	2.4	2.4	2.4	2.3	2.4	2.5	2.5	2.4	2.5	2.6	2.5	2.3	2.4	2.4	2.5	2.3	2.4

Figure 64. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations



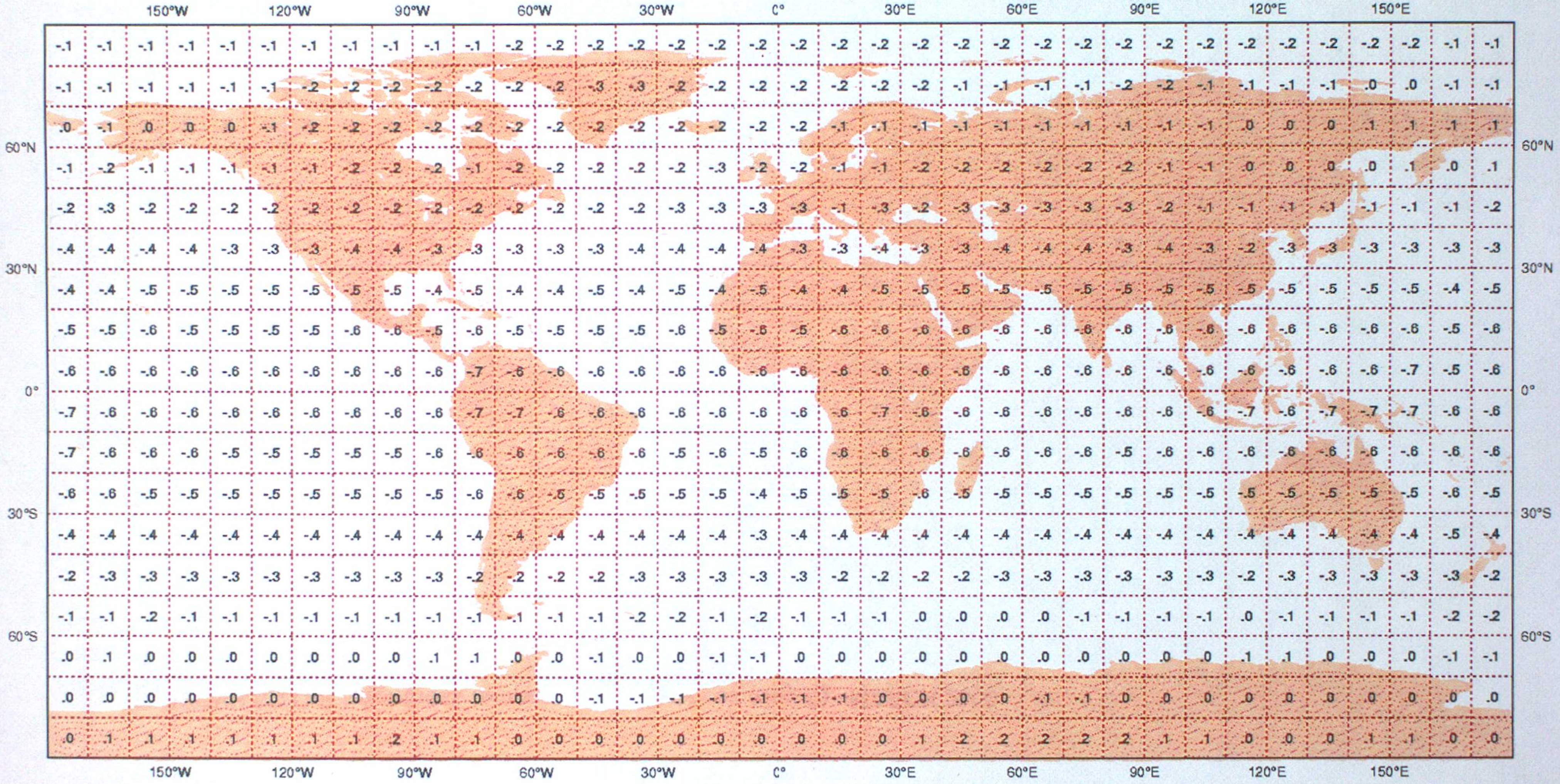
.1	.2	.0	-.1	.0	.0	-.1	-.3	-.3	-.3	.1	-.3	-.3	-.4	-.2	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.2	.1	.1	.1	.0	.0	.0	.1	.1	.1	.1
.2	.2	.2	.1	.3	.2	.0	-.1	-.2	-.3	.2	.1	-.7	-2.3	-2.6	.1	.2	.4	.5	.4	.3	.4	.4	.2	.3	.2	.0	-.2	-.2	.0	.0	.0	.0	.1	.1	.1
.3	.1	.0	.0	-.1	-.2	-.3	-.3	-.1	.1	.1	.2	.3	-.7	.2	.4	.4	.4	.3	.2	.1	.1	.2	.2	.0	-.2	.0	.0	-.3	-.2	-.3	-.5	-.4	.1	.1	.1
.4	.4	.2	.3	.1	.2	.2	.1	.1	.2	.1	.1	.3	.5	.4	.4	.4	.2	.3	.1	.2	.1	.0	.0	.0	.0	.1	.1	.2	-.3	-.4	-.2	.3	.2	.3	.4
.4	.4	.4	.4	.3	.2	.1	.4	.1	.1	.2	.2	.3	.4	.4	.4	.4	.3	.3	.2	.1	.1	.2	.2	.3	-.1	.6	1.3	.9	.8	.4	.2	.2	.3	.4	.4
.3	.2	.3	.3	.3	.2	.5	.6	.3	.3	.3	.4	.4	.3	.3	.3	.3	.5	.4	.3	.1	.3	.3	.7	.4	-.4	-.4	-.1	.6	.5	.2	.1	.2	.2	.3	.3
.2	.2	.1	.2	.2	.2	.2	.8	.2	.1	.2	.2	.2	.3	.3	.3	.5	.7	.7	.4	.3	.4	.6	.3	.3	.5	.1	-.3	.1	.1	.2	.2	.2	.2	.3	.3
.0	-.1	.0	.1	.1	.2	.1	.2	.2	.1	.1	.2	.2	.2	.2	.2	.4	.4	.3	.3	.6	.8	.4	.1	.0	.2	.1	.0	.0	.2	.0	.1	.1	.1	.2	.1
.0	.0	.0	.1	.1	.1	.1	.2	.1	.1	-.3	-.1	-.1	.1	.1	.1	.0	.0	.0	-.1	-.1	.6	.7	.0	.0	.0	-.1	-.2	-.1	-.3	-.2	-.3	-.3	-.2	-.1	.0
-.1	-.1	.0	.0	.0	.1	.1	.1	.1	.1	-.8	-.9	-.8	-.4	.1	.2	.1	.2	.0	-.4	-.8	-.4	.0	-.1	-.1	-.1	-.1	-.2	-.4	-.5	-.3	-.6	-.7	-.3	-.2	-.1
-.1	-.1	-.1	-.1	.0	.1	.1	.1	.2	.3	-.1	-.4	-.6	-.4	.1	.2	.2	.2	.2	-.1	-.5	-.3	-.2	-.1	.0	.1	.2	.1	.0	-.1	-.3	-.3	-.3	-.2	-.3	-.1
.0	.0	.0	-.1	.0	.1	.1	.2	.2	.2	.2	.6	-.1	-.1	-.1	.1	.2	.2	.2	.4	.2	.1	.1	.0	.2	.2	.2	.2	.2	.4	.4	.6	.5	.0	.0	.0
.2	.2	.2	.1	.2	.1	.2	.2	.2	.3	.4	.7	.2	.2	.1	.1	.2	.2	.2	.4	.5	.2	.1	.1	.2	.2	.2	.2	.2	.3	.4	.4	.6	.2	.2	.2
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.2	.3	.2	.2	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.3	.4	.3	.4	.4	.4	.3	.3	.3	.3	.4	.4	.3	.4	.4	.4	.4	.4	.4	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.2	.4	.4	.3	.3	.3	.3	.4	.3	.3	.1	.0	.2	.3	.1	.1	.0	.1	.1	.2	.3	.4	.3	.4
-.3	.1	.3	.2	.2	.1	.4	.3	.3	.4	.2	.2	.1	.2	.1	-.3	-.5	-1.3	-2.3	-2.4	-1.9	-1.8	-2.1	-1.8	-1.5	-1.9	-2.1	-1.8	-2.2	-2.5	-2.3	-1.4	-.9	-.6	.0	-.4
-.1	.0	-.1	.1	.1	.0	.1	.4	.8	.6	.2	.0	-.1	-.1	-.3	-.5	-.9	-1.7	-2.2	-2.5	-2.3	-2.4	-2.6	-2.9	-3.1	-3.2	-3.3	-3.4	-3.2	-3.0	-2.9	-2.6	-1.9	-.5	-.2	-.3

Figure 65. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations



.4	.4	.4	.3	.4	.4	.4	.5	.5	.6	.8	.6	.8	.9	1.0	.7	.5	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.3	.3	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.5	.6	.6	.9	1.3	1.7	1.7	1.1	.4	.4	.3	.5	.4	.3	.3	.4	.4	.4	.4	.4	.5	.5	.4	.4	.5	.4	.4	.4
.4	.5	.6	.7	.8	.7	.6	.6	.5	.5	.5	.5	.5	1.6	1.1	.5	.4	.3	.4	.6	.5	.5	.4	.4	.5	.5	.5	.6	.5	.5	.5	.7	.8	.6	.6	.5
.3	.4	.4	.3	.6	.6	.6	.5	.5	.5	.5	.5	.4	.3	.3	.3	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.6	.5	.8	.7	.6	.4	.4	.4	.3
.3	.3	.3	.3	.3	.5	.7	.6	.5	.6	.5	.5	.4	.4	.3	.3	.3	.5	.5	.6	.5	.5	.7	.6	.5	1.2	1.2	1.4	.8	.6	.5	.4	.5	.3	.3	.3
.3	.4	.4	.3	.3	.4	.6	.7	.6	.5	.4	.4	.4	.4	.3	.3	.3	.6	.5	.5	.5	.6	.8	.8	.9	1.7	1.8	1.9	1.0	.6	.5	.5	.4	.4	.4	.4
.4	.5	.5	.4	.3	.3	.5	.8	.6	.5	.4	.4	.4	.3	.3	.3	.5	.6	.6	.7	.8	.7	.8	.8	.7	.7	1.0	1.0	.9	.6	.5	.4	.4	.3	.4	.3
.6	.6	.6	.4	.4	.3	.4	.4	.6	.5	.5	.4	.3	.3	.4	.3	.6	.8	.7	1.0	.8	1.0	.8	.5	.4	.6	.4	.6	.8	.4	.6	.4	.4	.3	.4	.4
.5	.5	.5	.4	.4	.4	.4	.4	.4	.5	.9	.9	.7	.5	.4	.5	.6	.9	.9	1.0	1.2	1.2	.9	.4	.4	.5	.6	.8	.6	.8	.8	.8	.8	.7	.5	.6
.6	.6	.5	.6	.5	.5	.5	.6	.5	.5	1.1	1.1	1.0	1.0	.6	.4	.4	.6	.7	1.1	1.3	1.4	.5	.5	.6	.6	.6	.7	.8	.9	.8	.9	1.0	.8	.7	.7
.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.8	1.2	1.1	1.0	.5	.4	.3	.4	.4	1.0	1.1	1.0	.8	.6	.6	.5	.4	.4	.7	.7	1.0	1.0	.9	.7	.7	.6
.5	.6	.5	.5	.6	.5	.4	.4	.3	.3	.4	1.4	1.1	.8	.7	.4	.4	.4	.3	.8	1.0	.7	.6	.8	.4	.4	.4	.4	.4	.8	.9	.8	.8	.7	.5	.7
.5	.4	.5	.4	.4	.5	.4	.4	.4	.4	.5	1.0	.7	.5	.5	.4	.4	.4	.3	.4	.6	.6	.5	.5	.5	.4	.4	.4	.4	.5	.5	.6	.7	.5	.4	.5
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.6	.6	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.5
.4	.4	.3	.3	.3	.4	.3	.3	.3	.3	.5	.4	.4	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.4	.6	.5	.4	.3	.3	.3	.3	.3	.4	.4	.4	.7	.9	.6	.5	.7	.9	1.0	.8	.8	.8	.6	.5	.3	.3
.9	.7	.6	.7	.8	.8	.8	.8	.8	.7	.7	.8	.6	.5	.7	.9	1.3	2.0	2.2	2.4	2.2	1.7	1.6	1.7	1.5	1.7	1.7	2.0	1.9	1.8	1.8	1.5	1.0	1.1	.9	.9
.8	.7	.8	.8	.7	.8	.8	.9	1.0	.8	.7	.7	.8	.8	.9	1.1	1.3	1.6	1.9	2.0	1.7	1.3	1.4	1.8	2.0	2.0	1.8	1.6	1.4	1.3	1.2	1.1	1.0	1.3	.9	.9

Figure 66. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations



-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1
-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1	.0	.0	-.1	-.1
.0	-.1	.0	.0	.0	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.1	.1	.1	.1
-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1	.0	.0	.0	.0	.1	.0	.1
-.2	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.1	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2
-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.3	-.3	-.4	-.4	-.4	-.3	-.4	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.3
-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.4	-.4	-.5	-.4	-.5	-.4	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5
-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.6	-.5	-.5	-.5	-.5	-.6	-.5	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.6
-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.5	-.6
-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.7	-.7	-.7	-.6	-.6
-.7	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6
-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.5
-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4
-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.3	-.3	-.2
-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.1	-.2	-.1	-.1	-.1	.0	.0	.0	.0	-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	-.1	-.2	-.2
.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	-.1	.0	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	-.1	-.1
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.0	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.2	.2	.2	.2	.2	.1	.1	.0	.0	.0	.1	.1	.0	.0

Figure 67. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations

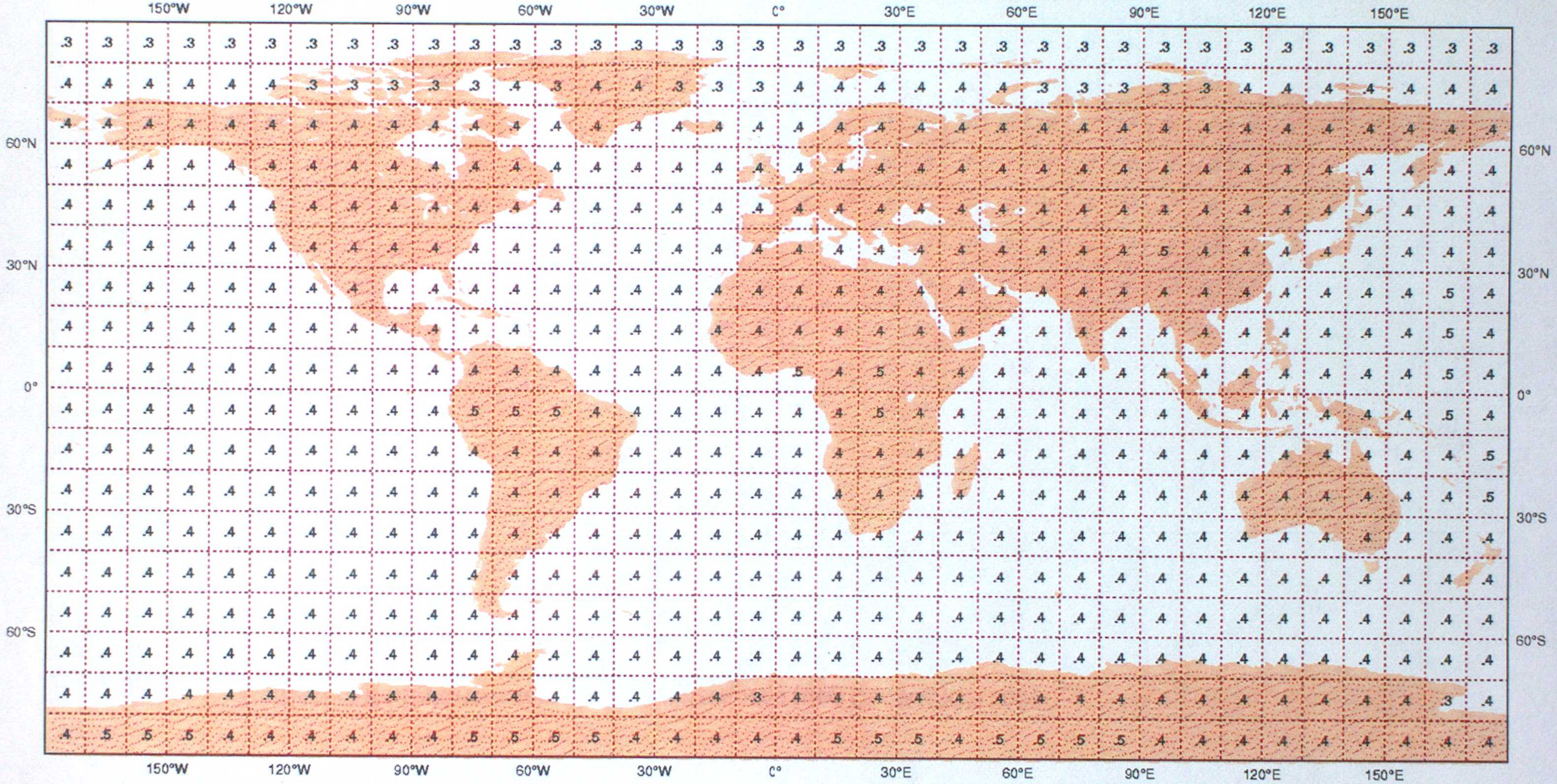
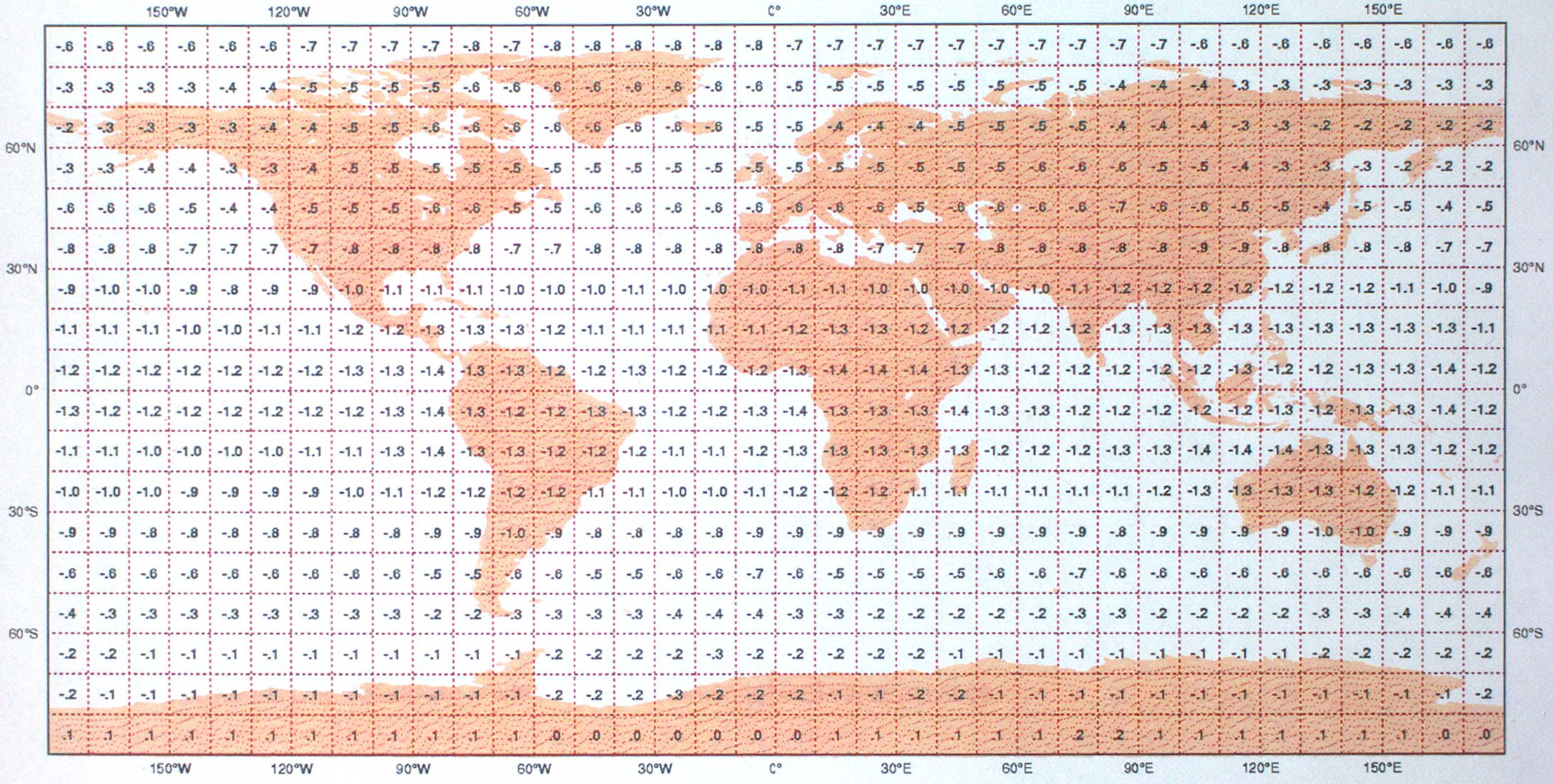

150°W
120°W
90°W
60°W
30°W
C°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .4 .3 .4 .4 .3 .3 .3 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .4
.4 .5 .5 .5 .4 .4 .4 .4 .4 .4 .5 .5 .5 .5 .4 .4 .4 .4 .4 .5 .5 .5 .4 .5 .5 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4
150°W
120°W
90°W
60°W
30°W
C°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 68. ATOVS MEAN O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations



-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.8	-.7	-.8	-.8	-.8	-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6
-.3	-.3	-.3	-.3	-.4	-.4	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3
-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.2
-.3	-.3	-.4	-.4	-.3	-.3	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.5	-.5	-.4	-.3	-.3	-.3	-.2	-.2	-.2
-.6	-.6	-.6	-.5	-.4	-.4	-.5	-.5	-.5	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.5	-.5	-.4	-.5	-.5	-.4	-.5
-.8	-.8	-.8	-.7	-.7	-.7	-.7	-.8	-.8	-.8	-.8	-.7	-.7	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.7	-.7	-.7	-.8	-.8	-.8	-.8	-.8	-.9	-.9	-.8	-.8	-.8	-.8	-.7	-.7
-.9	-1.0	-1.0	-.9	-.8	-.9	-.9	-1.0	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.1	-1.0	-1.0	-1.0	-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-1.0	-.9
-1.1	-1.1	-1.1	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.3	-1.3	-1.3	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.1
-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.3	-1.3	-1.4	-1.3	-1.3	-1.2	-1.2	-1.3	-1.2	-1.2	-1.2	-1.3	-1.4	-1.4	-1.4	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.3	-1.2	-1.2	-1.3	-1.3	-1.4	-1.2
-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.3	-1.4	-1.3	-1.2	-1.2	-1.3	-1.3	-1.2	-1.2	-1.3	-1.4	-1.3	-1.3	-1.3	-1.4	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.3	-1.2	-1.3	-1.3	-1.4	-1.2
-1.1	-1.1	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.3	-1.4	-1.3	-1.3	-1.2	-1.2	-1.2	-1.1	-1.1	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.3	-1.3	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3	-1.2	-1.2
-1.0	-1.0	-1.0	-.9	-.9	-.9	-.9	-1.0	-1.1	-1.2	-1.2	-1.2	-1.2	-1.1	-1.1	-1.0	-1.0	-1.1	-1.2	-1.2	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.1	-1.1
-.9	-.9	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.9	-.9	-1.0	-.9	-.8	-.8	-.8	-.8	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.9	-.8	-.9	-.9	-.9	-.9	-1.0	-1.0	-.9	-.9	-.9
-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.5	-.5	-.6	-.6	-.7	-.6	-.5	-.5	-.5	-.5	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6
-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.4	-.4	-.4
-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2
-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	.1	.1	.0	.0

Figure 69. ATOVS SD O-B brightness temperature differences (deg C). MARCH 2006
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations

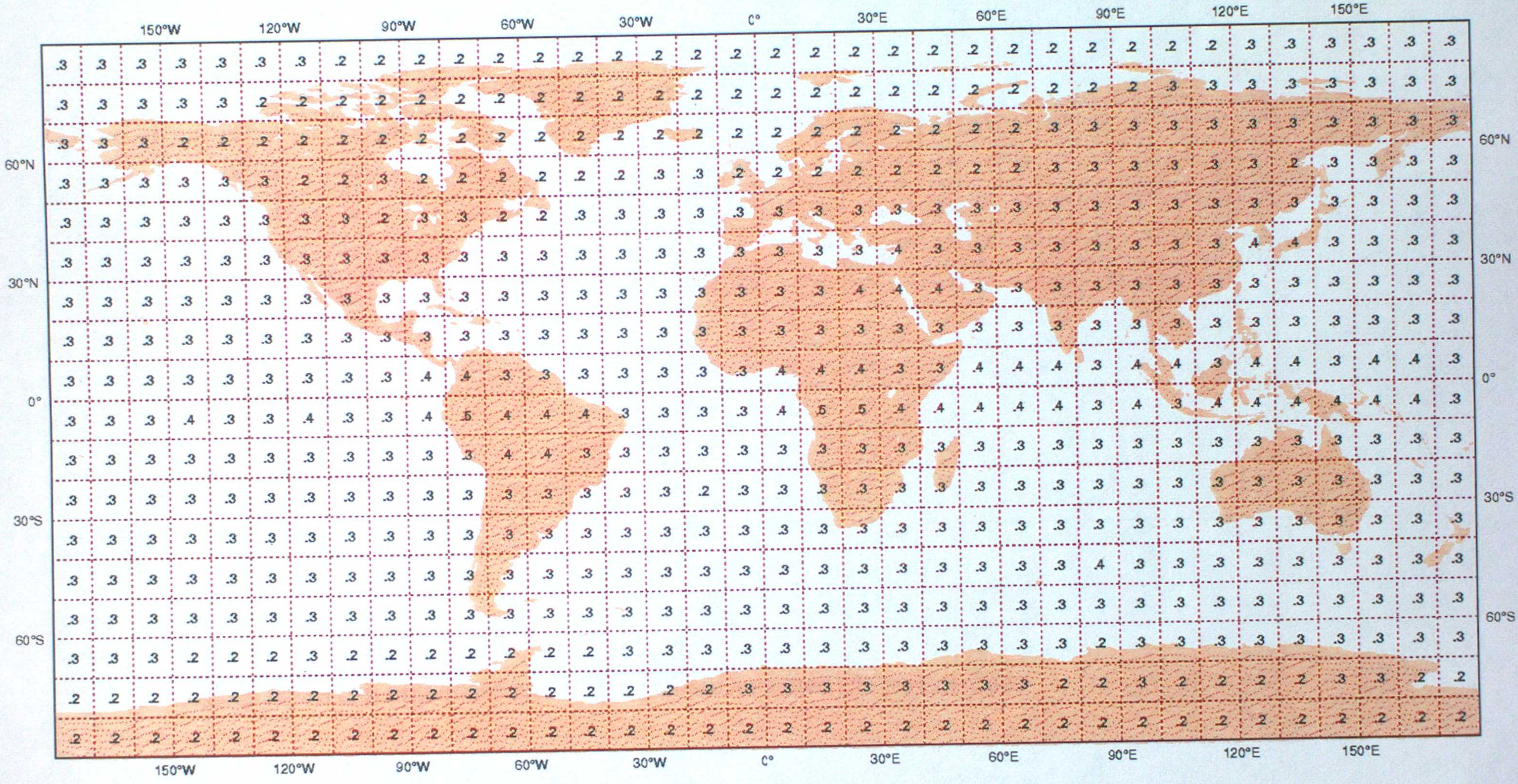

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)
DATA TYPE:- DRIFTER
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures **Period**		:One calendar month.
Data monitored		:Reports from each unique identifier for drifting buoy.
Area monitored		:10°N - 80°N, 85°W - 0°W
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:All hours combined.
Elements monitored		:Mean sea-level pressure (hPa) :Wind speed (m s^{-1}) :Wind direction (degrees)
Parameters monitored	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. A positive bias indicates the wind observation is veered to the background**
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors
GROSS ERROR LIMITS	:15 hPa (pressure) :25 m s^{-1} (Vector Wind)	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
13534	29.8	-46.5	P	728	0	0	0.6	-0.4	0.8
41501	19.1	-68.5	P	487	0	7	0.4	-0.7	0.8
41502	13.3	-64.6	P	779	0	9	0.8	-1.0	1.3
41525	25.9	-70.3	P	729	0	7	0.4	-0.2	0.5
41533	13.4	-49.9	P	558	2	20	0.3	0.4	0.5
41535	13.0	-55.2	P	781	0	8	0.4	-0.2	0.5
41536	13.7	-61.0	P	488	0	56	0.8	0.8	1.1
41537	14.8	-62.3	P	235	55	100	2.6	11.6	11.9
41543	28.2	-53.2	P	747	0	8	0.7	0.1	0.7
41544	24.9	-73.8	P	1211	0	45	0.4	0.1	0.4
41545	24.1	-61.1	P	767	0	8	0.4	-0.3	0.5
41625	23.6	-69.4	P	691	0	5	0.5	0.5	0.7
41630	30.7	-71.1	P	721	0	7	0.6	-0.1	0.6
41643	27.1	-76.7	P	722	0	7	0.4	0.1	0.5
41645	31.5	-68.9	P	1018	0	35	0.6	0.6	0.9
41646	30.2	-78.1	P	689	1	10	1.8	0.5	1.9
41647	13.7	-47.5	P	606	0	9	0.8	0.9	1.2
41648	13.1	-43.7	P	604	0	8	0.4	1.1	1.2
41649	17.7	-47.6	P	21	76	95	6.1	-4.2	7.4
41650	17.2	-42.7	P	24	88	92	4.3	4.9	6.5
41667	16.1	-55.8	P	635	5	34	0.4	0.5	0.7
42522	11.4	-77.6	P	351	16	22	0.7	0.8	1.0
42570	15.8	-74.9	P	949	0	28	0.4	0.9	1.0
42571	22.9	-84.8	P	769	0	7	0.6	-1.1	1.3
43512	12.2	-82.9	P	135	100	100			
43513	10.5	-81.0	P	688	0	7	0.4	-0.1	0.4
44607	35.6	-33.6	P	730	0	0	0.5	0.1	0.5
44609	47.7	-12.1	P	621	0	0	0.6	0.0	0.6
44611	60.7	-10.5	P	706	0	0	0.6	-0.3	0.6
44613	45.7	-38.1	P	110	0	0	0.4	0.4	0.5
44614	45.0	-42.1	P	113	0	0	0.4	0.4	0.6
44615	44.5	-25.5	P	721	0	1	0.9	-0.1	0.9
44617	44.8	-46.6	P	90	0	0	0.7	0.8	1.1
44620	44.7	-52.0	P	89	0	0	0.3	0.5	0.6
44635	49.6	-33.0	P	231	0	13	1.2	1.2	1.7
44637	41.4	-62.4	P	333	0	12	0.6	0.2	0.6
44722	51.6	-15.3	P	681	0	0	0.6	-0.2	0.7
44723	63.3	-30.5	P	726	0	0	0.7	-0.2	0.7
44725	54.6	-37.6	P	721	0	0	0.6	0.4	0.7
44727	41.0	-20.2	P	651	0	8	1.9	0.0	1.9
44728	53.1	-20.3	P	707	0	0	0.5	0.3	0.6
44729	43.7	-61.5	P	723	0	0	0.6	-0.6	0.8
44730	61.8	-35.8	P	723	0	0	0.7	0.0	0.7
44742	54.9	-47.2	P	722	0	0	0.6	0.0	0.6
44745	34.8	-33.0	P	730	0	1	0.4	0.4	0.6
44746	41.4	-38.6	P	730	0	0	0.8	0.3	0.9
44747	41.3	-30.3	P	723	0	1	0.6	0.1	0.6
44760	50.0	-45.8	P	715	0	0	0.7	0.2	0.7
44761	50.9	-36.8	P	709	0	0	0.7	-0.1	0.7
44762	55.3	-40.4	P	726	0	0	0.6	-0.1	0.6
44763	52.7	-40.3	P	727	0	0	0.8	-0.2	0.8
44764	46.9	-44.4	P	723	0	0	0.9	-0.1	0.9
44765	47.2	-35.3	P	727	0	0	0.6	0.2	0.7
44766	47.7	-38.9	P	727	0	0	0.6	0.1	0.7
44767	47.7	-32.6	P	714	0	0	0.5	0.2	0.6
44768	61.3	-33.2	P	719	0	0	0.6	-0.2	0.6
44769	46.4	-49.9	P	718	0	0	0.8	0.4	0.8
44770	57.0	-39.2	P	722	0	0	0.6	-0.1	0.6
44771	49.8	-47.6	P	726	0	0	0.6	-0.2	0.6
44772	39.9	-40.4	P	717	0	0	0.8	0.4	0.9

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
44773	42.7	-45.2	P	723	0	0	0.9	0.3	0.9
44774	42.1	-65.1	P	723	0	0	0.5	0.6	0.8
44776	56.3	-38.7	P	595	0	0	0.5	0.0	0.5
44777	51.7	-43.1	P	548	0	0	0.5	-0.2	0.5
44778	49.4	-48.0	P	544	0	0	0.8	-0.4	0.9
44779	48.6	-35.7	P	224	0	0	0.4	-0.2	0.4
44780	48.6	-41.7	P	219	0	0	0.3	-0.1	0.4
44831	61.8	-10.2	P	912	1	53	3.5	-0.3	3.5
44844	63.9	-1.4	P	1060	0	33	0.5	0.3	0.6
44845	51.6	-24.2	P	1094	0	35	0.6	-0.3	0.7
44846	46.1	-13.7	P	1048	0	34	0.5	0.1	0.6
44847	41.0	-22.4	P	813	0	13	0.6	0.0	0.6
44848	38.1	-33.8	P	858	0	17	0.5	0.2	0.5
44850	42.9	-18.4	P	1026	0	31	0.6	0.0	0.6
44901	39.4	-38.6	P	811	0	13	1.2	-0.1	1.2
44903	44.3	-31.8	P	828	0	13	0.6	0.0	0.6
47553	44.7	-63.6	P	1	100	100			
47555	72.0	-73.1	P	1144	3	67	0.7	0.0	0.7
62510	30.9	-25.3	P	724	0	0	0.4	0.2	0.5
62514	62.9	-41.6	P	688	0	0	1.0	-0.1	1.0
62515	43.8	-2.3	P	722	0	0	0.7	-0.2	0.7
62556	22.4	-50.9	P	1013	0	31	0.4	0.1	0.4
62557	24.7	-39.8	P	729	0	0	0.4	0.1	0.4
62560	44.0	-25.5	P	718	0	8	0.7	-0.1	0.7
62562	51.7	-11.4	P	660	0	0	0.6	0.5	0.8
62564	37.9	-22.8	P	723	0	0	0.6	0.4	0.7
62567	36.4	-21.4	P	710	0	0	0.4	-0.2	0.4
62569	55.9	-26.9	P	720	0	0	0.5	0.5	0.7
62571	46.2	-6.3	P	586	0	1	0.6	0.4	0.7
62572	39.5	-13.7	P	708	0	0	0.5	0.1	0.5
62573	39.6	-33.9	P	718	0	0	0.6	0.3	0.6
62574	49.3	-24.4	P	247	0	1	1.3	-0.1	1.3
62575	48.2	-30.0	P	225	0	0	0.4	-0.2	0.5
62909	42.6	-9.4	P	69	0	10	0.6	0.2	0.6
62934	45.4	-6.3	P	969	0	30	0.6	0.2	0.6
62935	42.4	-17.8	P	816	0	13	0.6	0.1	0.6
64613	65.6	-28.6	P	724	0	0	0.7	-0.1	0.7
64614	64.9	-24.1	P	721	0	0	0.6	0.2	0.6
64615	63.6	-29.2	P	728	0	0	0.7	-0.2	0.7
64616	59.1	-31.9	P	720	0	0	0.6	-0.2	0.6
64617	60.2	-32.3	P	594	0	0	0.5	0.2	0.5

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	25.9	-70.3	SPEED	717	0	100	1.7	-0.2	1.7
41543	28.2	-53.2	SPEED	704	0	100	1.9	-3.7	4.1
41630	30.7	-71.1	SPEED	708	0	100	2.5	0.7	2.6
41643	27.1	-76.7	SPEED	709	0	100	2.4	-0.1	2.4
41645	31.5	-68.9	SPEED	1002	0	100	2.2	1.1	2.4
41646	30.2	-78.1	SPEED	679	1	100	2.4	0.1	2.4
62571	46.2	-6.3	SPEED	426	0	100	2.5	2.4	3.5

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	25.9	-70.3	DIRN.	401	0	0	15.8	6.9	17.3
41543	28.2	-53.2	DIRN.	123	0	0	24.7	20.5	32.1
41630	30.7	-71.1	DIRN.	510	0	0	14.4	9.8	17.4
41643	27.1	-76.7	DIRN.	372	1	0	21.0	16.7	26.8
41645	31.5	-68.9	DIRN.	779	0	0	15.1	20.1	25.2
41646	30.2	-78.1	DIRN.	462	1	0	18.1	4.8	18.7
62571	46.2	-6.3	DIRN.	405	0	0	12.5	3.5	13.0

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures:

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :40°N - 70°N, 60°W - 0°W.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored :N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS". All ADS reports are similarly grouped together.

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	4821	0	6	1.4	0.2	4329	0	5	0	4.5	0.7
ACA	1984	0	4	1.5	-0.3	1541	0	3	0	4.3	0.8
ACF	51	0	37	3.5	0.0	26	0	58	0	21.1	-1.4
AEA	409	0	5	2.1	0.4	327	1	6	0	9.1	0.0
AFL	403	0	8	1.9	0.5	178	1	100	0	9.0	0.3
AFR	4501	0	3	1.4	0.1	4252	0	3	0	5.7	0.7
AFZ	147	0	10	2.0	1.6	147	1	11	0	4.6	-0.5
AJM	134	2	18	2.6	-0.4	75	0	20	0	15.5	0.4
AMT	31	0	6	2.0	-0.1	25	0	0	0	6.6	0.3
AMX	260	0	6	2.0	-0.1	199	0	7	0	11.1	0.9
ANZ	175	0	23	1.2	-0.3	168	0	22	0	4.9	0.3
AUA	488	0	3	1.4	0.4	463	0	3	0	4.5	0.9
AVA	38	0	5	1.4	0.0	38	0	13	0	11.1	1.1
AZA	189	1	8	2.0	0.6	127	0	9	0	10.6	0.1
BAL	207	0	11	1.7	-0.3	198	0	11	0	8.1	0.4
BAW	582	1	22	1.9	-0.3	365	0	16	0	6.3	0.3
BMA	366	0	5	1.9	-0.1	303	0	3	0	5.1	0.4
BPA	280	2	24	3.1	1.2	256	0	13	0	10.1	0.9
BWA	154	1	7	2.4	-0.2	110	0	1	0	7.4	0.3
CFC	34	3	9	1.8	-0.4	36	0	8	0	8.3	1.5
CFG	442	1	11	1.9	0.1	292	1	16	0	12.9	0.2
CFY	100	0	2	1.1	-0.4	88	0	0	0	3.2	0.6
CGD	64	0	2	1.1	-0.5	59	0	2	0	4.1	0.8
CGF	316	0	1	1.2	-0.3	296	0	1	0	3.4	0.6
CGH	314	0	2	1.1	-0.3	282	0	2	0	3.5	0.5
CKS	86	0	14	2.4	-0.1	30	0	7	0	12.8	1.4
CLX	213	0	6	2.0	-0.7	86	0	100	0	11.2	0.5
CNJ	157	0	62	1.2	0.7	157	0	62	0	4.5	0.1
COA	4772	0	8	1.4	0.0	4452	0	7	0	4.7	0.5
CRL	78	1	12	1.7	0.0	65	2	8	0	8.5	0.5
CSA	34	0	3	1.6	0.0	22	0	5	0	7.7	3.0
CSD	70	0	16	1.9	0.6	34	0	12	0	4.4	0.0
CUB	160	1	6	2.0	-0.4	110	0	100	0	9.5	0.5
DAB	829	0	2	1.4	0.1	769	0	2	0	3.9	0.6
DAI	707	0	4	1.1	0.2	666	0	3	0	3.5	0.6
DAL	1242	0	4	1.4	0.2	1146	0	3	0	4.7	0.4
DLH	4236	0	3	1.3	0.1	4014	0	3	0	4.3	0.6
DRD	112	0	4	2.2	-0.2	112	1	1	0	5.0	0.0
EDW	36	0	11	1.9	-0.1	20	0	15	0	14.3	-0.6
EEZ	50	0	18	2.3	0.1	46	0	13	0	8.5	1.2
EIA	129	0	9	2.0	0.2	110	0	100	0	23.1	5.8
ELY	443	0	2	1.3	0.1	399	0	2	0	5.7	0.9
ESS	143	1	100	3.1	1.9	34	0	6	0	7.7	1.0
FCA	79	1	100	2.3	0.1	44	2	5	0	8.4	-0.9
FDX	269	1	47	1.5	0.3	165	0	47	0	4.3	0.4
FGE	28	0	0	1.1	-0.4	27	0	0	0	3.0	0.8
FGI	211	0	3	1.2	-0.4	196	0	2	0	3.8	0.5
FGL	183	0	1	1.3	0.0	170	0	0	0	4.3	1.4
FGN	50	0	2	1.2	0.3	46	0	2	0	3.3	0.8
FGS	481	0	2	1.3	0.1	451	0	2	0	4.1	0.8
FGZ	31	0	3	1.2	0.1	30	0	3	0	6.1	1.3
FIN	326	2	4	1.3	0.0	252	0	2	0	6.6	0.2
FWI	187	1	16	2.2	-0.5	168	1	17	0	11.3	-0.2
GCO	116	1	6	1.9	0.1	106	0	100	0	9.4	1.1
GEC	396	1	24	1.7	0.0	379	0	24	0	8.3	0.5
GOJ	44	0	0	1.2	0.1	39	0	0	0	4.7	0.0
GRL	87	0	0	1.2	0.2	70	1	3	0	4.7	0.5
GTI	98	0	3	2.1	0.9	70	0	6	0	9.2	0.6
GVA	93	0	3	1.3	-0.3	83	0	2	0	4.4	1.0

		TEMPERATURE					WIND				
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
GVB	92	0	0	1.0	0.1	88	0	0	0	3.4	0.5
GVF	69	0	1	1.2	-0.4	61	0	2	0	4.1	1.0
GVG	76	0	0	1.5	-0.9	72	0	0	0	3.9	0.9
GVH	35	0	6	1.5	-0.8	33	0	6	0	4.3	1.1
GVL	53	0	2	1.0	0.3	52	0	2	0	3.3	0.5
GVR	195	0	1	1.3	-0.1	185	0	1	0	4.6	0.1
GVT	43	0	2	1.3	-0.1	36	0	3	0	3.4	0.6
GVW	65	0	2	1.3	-0.3	61	0	2	0	4.2	0.2
GVX	73	0	1	1.2	0.0	69	0	0	0	4.0	0.2
GWW	37	0	0	1.1	-0.2	32	0	0	0	3.1	0.3
HBI	215	0	1	1.2	-0.3	205	0	1	0	4.6	0.6
HBJ	77	0	0	1.1	-0.3	73	0	0	0	4.0	1.0
IBE	1255	1	4	1.6	0.2	1243	0	4	0	7.9	0.6
ICE	874	0	3	1.5	0.0	450	0	2	0	5.5	1.0
ISR	64	2	8	1.6	0.1	37	0	5	0	9.6	-0.8
IWD	148	0	3	2.0	-0.6	148	0	1	0	5.5	0.4
KAC	96	0	1	1.5	0.6	95	0	1	0	4.3	0.6
KLM	832	0	6	1.9	0.0	540	0	7	0	9.2	0.1
LCO	32	0	9	2.0	0.1	31	0	6	0	7.6	0.2
LNR	212	0	60	1.2	-0.3	201	0	61	0	3.4	0.7
LOT	294	1	5	1.9	-0.8	151	0	3	0	5.9	0.0
LTU	515	3	9	2.0	-0.1	368	0	8	0	8.9	0.8
LVG	184	0	6	1.6	0.2	165	0	6	0	5.3	0.5
MAS	83	0	4	1.5	0.5	78	0	3	0	3.4	0.0
MPD	82	1	2	1.7	0.6	69	0	3	0	8.7	0.2
MPH	129	1	11	2.3	-1.2	76	0	13	0	13.1	-1.2
MSR	134	0	2	1.3	0.2	131	0	2	0	4.2	0.9
MXJ	236	1	9	1.7	0.2	128	0	4	0	5.4	0.6
MYT	95	2	11	2.2	-0.3	51	2	18	0	10.9	0.7
NAO	68	0	6	2.2	-0.2	56	0	4	0	9.2	-0.1
NOS	137	0	11	2.5	0.0	86	0	19	0	13.2	-0.9
NWA	2429	0	3	1.6	0.1	2253	0	2	0	4.6	0.4
OAE	185	1	14	1.7	-0.3	87	0	28	0	13.2	2.3
OOM	118	0	8	2.1	0.0	85	0	2	0	5.1	0.5
OYK	313	0	57	1.0	-0.2	290	0	59	0	3.5	0.6
PAC	99	0	11	2.3	-0.1	65	0	11	0	7.1	0.9
PLM	63	0	0	1.9	0.6	61	3	7	0	7.9	1.6
RAM	277	0	3	1.8	-0.1	172	0	6	0	9.8	-0.3
RCH	259	0	100	3.1	-0.9	174	1	100	0	13.2	1.0
RRR	50	4	12	2.7	-1.3	45	0	4	0	7.6	0.7
RZO	160	1	3	1.6	-0.5	142	0	3	0	7.7	0.6
SAS	907	0	69	1.2	0.0	872	0	69	0	3.9	0.7
SER	489	0	54	1.3	0.1	466	0	55	0	3.8	0.7
SEU	189	1	17	2.0	-0.3	135	1	21	0	12.8	0.8
SIA	343	0	1	1.3	-0.1	328	0	2	0	4.6	0.4
SLM	32	0	0	1.7	0.7	31	0	3	0	8.2	2.0
SQC	330	0	2	1.3	-0.2	314	0	1	0	4.7	0.3
SWR	1680	0	3	1.3	-0.4	1587	0	2	0	4.5	1.1
TAP	213	0	3	1.6	-0.7	151	1	7	0	10.2	0.5
TCX	208	0	2	1.5	0.0	193	0	3	0	5.1	0.8
TFL	90	0	17	1.8	-0.3	43	0	21	0	16.4	1.8
THT	78	0	3	1.2	-0.6	75	0	3	0	3.5	1.4
TSC	63	0	5	2.2	-1.2	40	0	3	0	6.8	-1.0
TUB	54	4	9	1.8	-0.4	33	0	6	0	8.5	0.8
UAE	383	0	2	1.5	0.1	369	0	2	0	5.3	1.0
UAL	3526	0	5	1.3	-0.2	3341	0	5	0	4.2	0.6
UPS	1063	0	52	1.7	-0.1	593	0	52	0	6.4	0.8
USA	1654	0	2	1.3	-0.1	1545	0	2	0	4.7	0.7
VIR	2550	0	3	1.3	-0.3	2368	0	3	0	4.6	0.5

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
WOA	250	1	8	1.7	0.2	182	0	10	0	10.5	0.8
XLA	48	0	17	2.7	0.5	34	3	26	0	13.2	-0.7
ZKN	118	0	3	1.3	-0.2	116	0	3	0	4.2	0.5
ZKS	53	0	2	1.2	-0.1	50	0	2	0	4.3	1.1
9VS	103	0	1	1.2	0.0	98	0	1	0	4.4	0.2

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
EU	37402	0	21	1.2	0.1	37402	0	21	0	4.0	0.4

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	5052	0	11	1.4	-0.1	4632	0	11	0	4.3	0.5

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
US ACARS	37737	0	34	1.3	0.2	37737	0	30	0	4.7	0.3

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBBH	00	Z	100	11	0	11.1	21.1	18.0
EBUQ	12	Z	100	12	0	12.3	14.8	8.2
ELML7	00	Z	100	11	0	36.8	39.9	15.4
ELML7	12	Z	100	11	0	10.9	11.0	1.6
FQFL	00	Z	100	4	0	9.1	20.4	18.3
FQFL	12	Z	100	9	0	10.5	30.0	28.1
FQFM	00	Z	100	10	0	9.7	14.5	-10.8
FQFM	12	Z	100	10	0	9.2	18.0	-15.5
KRPD	00	Z	100	4	0	4.7	13.1	12.3
KRPD	12	Z	100	7	0	8.8	20.6	18.6
LDWR	00	Z	100	27	0	5.9	7.6	-4.9
LDWR	12	Z	100	24	0	7.3	11.0	-8.2
OXVH2	00	Z	100	6	0	36.6	43.6	23.7
OXVH2	12	Z	100	7	0	8.2	12.6	9.6
SKUN	00	Z	100	6	0	14.2	33.0	29.8
SKUN	12	Z	100	6	0	17.7	28.0	21.7
V2BD9	00	Z	100	6	0	8.3	25.4	24.0
V2BD9	12	Z	100	3	0	14.8	30.5	26.7
V2XM	00	Z	100	7	0	6.1	14.8	13.4
V2XM	12	Z	100	8	0	13.1	21.7	17.3
WAAH	00	Z	100	9	0	22.3	49.5	44.2
WAAH	12	Z	100	9	0	8.8	40.1	39.1
WPKD	00	Z	100	4	0	2.8	14.0	13.8
WPKD	12	Z	100	5	0	67.4	80.7	44.4
ZCBE7	00	Z	100	2	0	13.5	44.6	42.5
ZCBE7	12	Z	100	9	0	25.5	33.7	22.1
ZCBF3	00	Z	100	3	0	2.9	46.1	46.0
ZCBF3	12	Z	100	1	0	0.0	44.0	44.0
ZCBP6	00	Z	100	6	0	11.1	29.3	27.2
ZCBP6	12	Z	100	5	0	17.0	25.7	19.2
03953	00	Z	100	28	0	11.6	12.3	-4.1
03953	12	Z	100	27	0	20.0	20.1	-0.8
04018	00	Z	100	30	0	9.8	10.2	-2.6
04018	12	Z	100	28	0	13.3	15.3	-7.4
04220	00	Z	100	29	0	9.3	11.1	6.0
04220	12	Z	100	27	0	8.3	8.8	2.7
04270	00	Z	100	30	0	9.6	10.0	-2.7
04270	12	Z	100	28	0	11.6	12.1	-3.5
04339	00	Z	100	27	0	7.5	8.7	-4.4
04339	12	Z	100	26	0	8.1	9.4	-4.9
04360	00	Z	100	29	0	10.6	12.0	5.6
04360	12	Z	100	29	0	27.5	27.5	-0.8
08001	00	Z	100	25	0	11.3	17.1	12.8
08001	12	Z	100	22	0	8.1	24.1	22.7
08508	12	Z	100	24	0	12.4	20.0	15.7
08522	12	Z	100	27	0	21.1	24.0	11.4
08594	12	Z	100	23	0	15.6	15.6	-0.5
71600	00	Z	100	30	0	14.2	18.6	-12.0
71600	12	Z	100	29	0	14.5	15.8	-6.4
72201	00	Z	100	30	0	10.2	12.2	6.6
72201	12	Z	100	29	0	10.7	20.4	17.3
72402	00	Z	100	30	0	9.8	18.1	15.3
72402	12	Z	100	28	0	11.2	13.0	6.6
74494	00	Z	100	29	0	12.5	12.7	-2.3
74494	12	Z	100	29	0	10.8	20.5	-17.5
78016	00	Z	100	27	0	12.1	28.0	25.2
78016	12	Z	100	28	0	11.8	21.3	17.8

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS	:Defined in Appendix I.1	

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBBH	00	Z	500	12	0	5.0	5.4	-2.0
EBUQ	12	Z	500	17	0	7.6	7.8	-1.6
ELML7	00	Z	500	11	0	15.4	15.6	-2.0
ELML7	12	Z	500	11	0	9.8	11.3	-5.5
FQFL	00	Z	500	7	0	7.0	10.5	-7.9
FQFL	12	Z	500	10	0	4.5	7.0	-5.3
FQFM	00	Z	500	12	0	6.2	15.9	-14.7
FQFM	12	Z	500	10	0	10.9	16.8	-12.8
KRPD	00	Z	500	5	0	7.6	7.8	-1.8
KRPD	12	Z	500	7	0	3.2	3.3	-0.7
LDWR	00	Z	500	27	0	6.5	6.5	0.2
LDWR	12	Z	500	27	0	4.8	5.4	-2.5
OXVH2	00	Z	500	7	0	37.8	40.8	15.1
OXVH2	12	Z	500	7	0	9.1	11.6	7.1
SHIP	00	Z	500	1	0	0.0	12.0	-12.0
SKUN	00	Z	500	6	0	9.9	24.1	22.0
SKUN	12	Z	500	6	0	17.0	23.4	16.0
V2BD9	00	Z	500	7	0	4.2	5.1	2.9
V2BD9	12	Z	500	5	0	11.3	14.6	9.2
V2XM	00	Z	500	8	0	13.0	20.8	16.3
V2XM	12	Z	500	9	0	7.5	18.6	17.0
WAAH	00	Z	500	14	0	23.0	42.3	35.5
WAAH	12	Z	500	10	0	7.1	29.1	28.2
WPKD	00	Z	500	6	0	4.7	7.4	-5.7
WPKD	12	Z	500	7	0	30.2	30.8	5.7
ZCBE7	00	Z	500	5	0	6.7	16.4	15.0
ZCBE7	12	Z	500	9	0	28.5	28.5	-0.4
ZCBF3	00	Z	500	4	0	2.6	21.4	21.3
ZCBF3	12	Z	500	2	0	1.5	24.5	24.5
ZCBP6	00	Z	500	7	0	12.2	26.0	23.0
ZCBP6	12	Z	500	5	0	18.7	27.1	19.6
03953	00	Z	500	30	0	7.0	7.0	0.3
03953	12	Z	500	29	0	8.8	8.8	-0.3
04018	00	Z	500	30	0	7.5	7.5	0.7
04018	12	Z	500	28	0	8.3	9.3	-4.2
04220	00	Z	500	30	0	7.6	7.8	1.9
04220	12	Z	500	29	0	8.3	8.6	2.1
04270	00	Z	500	30	0	8.0	8.8	-3.5
04270	12	Z	500	28	0	11.1	11.5	-3.0
04339	00	Z	500	29	0	6.9	7.5	-3.0
04339	12	Z	500	26	0	7.5	8.3	-3.7
04360	00	Z	500	29	0	8.3	8.7	2.4
04360	12	Z	500	29	0	12.0	12.2	-2.0
08001	00	Z	500	28	0	8.3	8.7	2.7
08001	12	Z	500	24	0	6.7	8.3	4.9
08508	12	Z	500	25	0	7.1	8.6	-4.9
08522	12	Z	500	28	0	17.7	17.9	-2.9
08594	12	Z	500	24	0	8.4	9.6	-4.7
71600	00	Z	500	30	0	7.9	9.3	-5.0
71600	12	Z	500	29	0	10.4	10.5	-1.6
72201	00	Z	500	30	0	5.0	7.4	-5.4
72201	12	Z	500	29	0	4.3	6.2	-4.4
72402	00	Z	500	30	0	5.0	5.1	1.2
72402	12	Z	500	28	0	6.6	6.6	-0.9
74494	00	Z	500	29	0	6.5	7.6	-3.9
74494	12	Z	500	29	0	5.1	6.7	-4.3
78016	00	Z	500	30	0	9.5	12.1	7.4
78016	12	Z	500	29	0	6.2	7.2	3.7

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBBH	00	V	100	6	0	0	6.3	-1.6	-2.7
EBUQ	12	V	100	9	0	0	3.9	-1.5	0.9
ELML7	00	V	100	11	0	0	5.5	3.0	-1.1
ELML7	12	V	100	11	0	0	5.7	0.2	-1.6
FQFL	00	V	100	4	0	0	4.0	-0.4	0.8
FQFL	12	V	100	9	0	0	6.0	-1.8	0.7
FQFM	00	V	100	10	0	0	3.4	0.7	1.5
FQFM	12	V	100	10	0	0	5.1	0.2	3.1
KRPD	00	V	100	4	0	0	3.6	1.2	0.2
KRPD	12	V	100	7	0	0	3.9	-2.0	0.9
LDWR	00	V	100	27	0	0	2.9	-0.2	-0.2
LDWR	12	V	100	22	0	0	3.3	1.5	0.4
OXVH2	00	V	100	4	0	0	3.2	-1.5	0.8
OXVH2	12	V	100	6	0	16	10.6	-4.7	-0.3
SKUN	00	V	100	6	0	0	3.3	-0.1	1.9
SKUN	12	V	100	6	0	0	3.2	-1.5	-0.7
V2BD9	00	V	100	4	0	0	4.7	2.2	-1.4
V2BD9	12	V	100	3	0	0	2.7	1.2	-1.5
V2XM	00	V	100	7	0	0	4.3	0.0	1.0
V2XM	12	V	100	8	0	0	3.1	-0.8	-0.7
WAAH	00	V	100	9	0	0	4.8	-0.2	-1.9
WAAH	12	V	100	9	0	0	3.9	-0.8	1.5
WPKD	00	V	100	4	0	0	2.8	-0.2	1.6
WPKD	12	V	100	5	0	0	4.3	0.1	0.8
ZCBE7	00	V	100	2	0	0	2.4	0.7	0.0
ZCBF3	00	V	100	2	0	0	2.8	2.0	0.2
ZCBF3	12	V	100	1	0	0	5.2	0.6	-5.2
ZCBP6	00	V	100	6	0	0	4.8	1.6	1.1
ZCBP6	12	V	100	5	0	0	4.4	0.9	2.7
03953	00	V	100	26	0	0	3.4	0.4	-0.4
03953	12	V	100	26	0	0	3.2	0.3	0.4
04018	00	V	100	30	0	0	3.6	0.6	0.4
04018	12	V	100	28	0	0	3.3	0.1	0.4
04220	00	V	100	28	0	0	2.5	0.1	0.0
04220	12	V	100	27	0	0	2.9	0.5	-0.4
04270	00	V	100	30	0	0	4.1	0.0	-0.2
04270	12	V	100	28	0	0	3.7	-0.1	0.7
04339	00	V	100	27	0	0	3.4	0.0	0.6
04339	12	V	100	26	0	0	3.0	0.1	1.0
04360	00	V	100	28	0	0	2.7	-0.1	-0.3
04360	12	V	100	29	0	0	3.3	0.8	0.6
08001	00	V	100	23	0	0	4.1	1.2	1.0
08001	12	V	100	21	0	0	4.0	-0.8	-0.4
08508	12	V	100	12	0	0	6.0	0.5	-0.8
08522	12	V	100	25	0	0	5.5	1.0	0.5
08594	12	V	100	23	0	100	4.8	-0.7	-3.2
71600	00	V	100	29	0	0	3.9	-0.2	1.0
71600	12	V	100	28	0	0	4.7	-0.1	0.5
72201	00	V	100	30	0	0	3.6	0.0	0.2
72201	12	V	100	29	0	0	3.8	0.4	-0.7
72402	00	V	100	30	0	0	4.3	0.8	-1.2
72402	12	V	100	28	0	0	4.8	-0.4	1.6
74494	00	V	100	28	0	100	2.8	-0.4	0.6
74494	12	V	100	28	0	100	3.2	-0.4	1.3
78016	00	V	100	26	0	0	8.9	2.1	1.0
78016	12	V	100	26	0	0	6.3	1.6	0.2

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Mar 2006

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS:	Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBBH	00	V	500	10	0	0	3.2	-1.0	0.0
EBUQ	12	V	500	15	0	0	4.9	1.5	1.7
ELML7	00	V	500	11	0	0	4.7	0.1	0.0
ELML7	12	V	500	11	0	0	5.7	-0.4	-0.9
FQFL	00	V	500	7	0	0	3.6	-1.2	1.6
FQFL	12	V	500	10	0	0	3.4	0.5	0.4
FQFM	00	V	500	12	0	8	5.2	1.8	-0.2
FQFM	12	V	500	10	0	0	4.0	0.1	0.8
KRPD	00	V	500	5	0	20	10.1	3.9	-0.6
KRPD	12	V	500	7	0	0	2.5	0.8	0.5
LDWR	00	V	500	27	0	0	3.4	-0.5	-0.4
LDWR	12	V	500	27	0	0	4.2	-0.8	0.7
OXVH2	00	V	500	5	0	0	3.4	2.2	-0.2
OXVH2	12	V	500	6	0	0	4.3	-2.2	-1.6
SHIP	00	V	500	1	0	0	0.5	-0.4	0.3
SKUN	00	V	500	6	0	0	3.8	-0.4	0.9
SKUN	12	V	500	6	0	0	4.1	0.0	1.5
V2BD9	00	V	500	7	0	0	5.1	-2.6	2.0
V2BD9	12	V	500	5	0	0	4.0	0.8	2.3
V2XM	00	V	500	8	0	0	4.7	0.7	1.3
V2XM	12	V	500	9	0	0	3.2	-1.3	0.7
WAAH	00	V	500	13	0	0	3.5	0.1	-0.4
WAAH	12	V	500	10	0	0	5.5	-1.2	0.7
WPKD	00	V	500	6	0	0	2.5	0.3	-0.2
WPKD	12	V	500	7	0	0	4.1	1.0	-0.8
ZCBE7	00	V	500	5	0	0	3.8	1.8	0.4
ZCBF3	00	V	500	3	0	0	3.9	0.7	-2.1
ZCBF3	12	V	500	2	0	0	2.9	-0.8	-1.2
ZCBP6	00	V	500	7	0	0	5.4	-1.2	2.3
ZCBP6	12	V	500	5	0	0	3.5	1.0	-1.5
03953	00	V	500	30	0	0	3.7	-0.5	-0.5
03953	12	V	500	28	0	0	4.7	-0.4	0.0
04018	00	V	500	30	0	0	3.5	-0.6	-1.2
04018	12	V	500	28	0	0	3.6	-0.3	0.1
04220	00	V	500	30	0	0	3.8	0.0	-0.1
04220	12	V	500	29	0	0	4.8	-0.1	-0.5
04270	00	V	500	30	0	0	4.5	0.4	0.2
04270	12	V	500	28	0	0	4.9	0.4	0.5
04339	00	V	500	29	0	0	3.6	-0.5	0.0
04339	12	V	500	26	0	0	3.9	-0.2	-0.7
04360	00	V	500	29	0	0	4.3	0.1	0.7
04360	12	V	500	29	0	0	5.0	-0.9	-0.2
08001	00	V	500	28	0	0	5.6	1.4	-0.2
08001	12	V	500	21	0	0	4.9	0.8	1.2
08508	12	V	500	10	0	0	4.9	0.5	-2.1
08522	12	V	500	28	0	0	4.2	-0.8	-0.5
08594	12	V	500	24	0	0	4.2	-0.1	-2.3
71600	00	V	500	30	0	0	3.5	0.1	-0.1
71600	12	V	500	29	0	0	3.4	-0.5	0.0
72201	00	V	500	30	0	0	2.1	0.1	0.1
72201	12	V	500	28	0	0	2.3	-0.5	0.2
72402	00	V	500	30	0	0	3.3	0.4	-0.2
72402	12	V	500	28	0	0	2.8	0.3	-0.3
74494	00	V	500	28	0	100	3.4	-1.1	0.9
74494	12	V	500	29	0	100	3.9	-0.3	1.5
78016	00	V	500	30	0	0	3.3	0.2	0.8
78016	12	V	500	29	0	0	3.9	1.0	-0.3

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5, 10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45